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A Weekly Miscellany

AMUSEMENT AND INSTRUCTION.

VOL. II.



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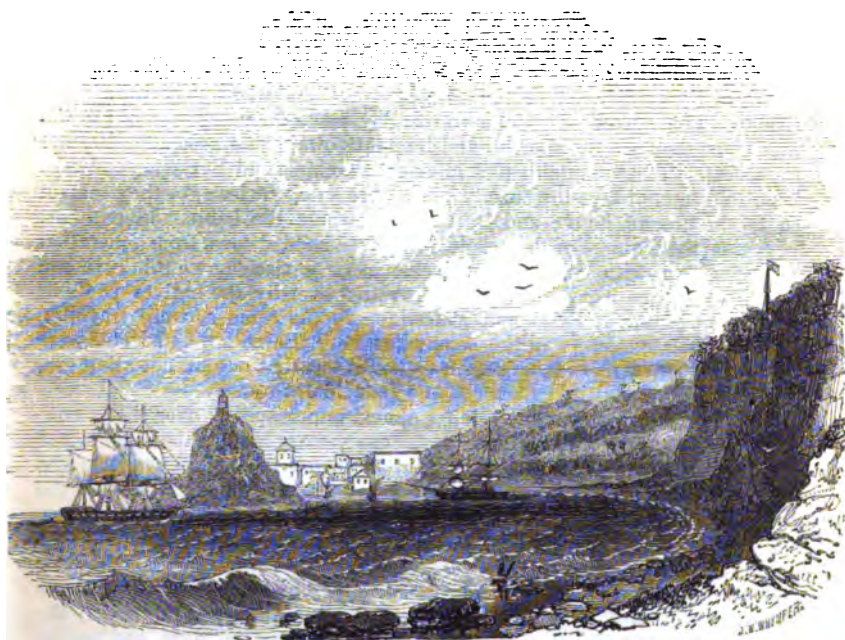
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THE
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SEA-COASTS AND SHORES OF CILICIA, &c. (*continued*).



LAODICIA, OR LATACHIA.

SCRIPTURE geographers assert that "Laodicia ad Mare," as Latachia in Syria was anciently styled, is nowhere referred to in Sacred Writ.

Notwithstanding this omission, from the peculiarly advantageous position of her port, and situated as Latachia is between Tarsus and Seleucia on the one side, and Sidon, Tyre, and Joppa on the other, it must necessarily have been the resort of many of the vessels coasting between those then opulent and commercial cities, and in all probability itself have been a town of some consideration. The port of Latachia was by nature well

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adapted for use as a port of refuge: improving upon these natural facilities, the ancients constructed a breakwater of considerable solidity, which entirely secured the harbour, and rendered the anchorage a perfect basin, where hardly the ripple of a wave was perceptible, and where, in the zenith of its glory, upwards of a thousand ships found secure and commodious anchorage. Time and earthquakes have materially assisted in destroying the handiwork of man, and the breakwater, which in its pristine condition greatly ameliorated the condition of the harbour, in its present dilapidated state (being in many parts so much broken down that the waves during a gale make a clean sweep over the ruins), only tends to encumber the basin with rubbish, and the filth and matter accumulated through centuries, besides the vast quantity of sand washed over the ruins; these, in addition to the crumbling masses of masonry that have fallen into the port, have materially helped to choke up the harbour, and such is its present condition that barely a dozen vessels with any pretension to size can find accommodation; and even these few incur much risk during the strength of winter gales, from the violence with which the sea, bursting over the breaches in the breakwater, dashes volumes of water against and over them. Those Apostles and primitive Christians who found occasion to travel by land from Phœnicia into Northern Syria or Cilicia, must necessarily have taken Latachia *en route*. The roads by the sea-side have in all ages been preferred in the east by travellers when they were practicable. This choice was, and is to this day, made for many reasons: in the first place they are the shortest and least fatiguing; and, secondly, they are the safest. The mountains that intersect Phœnicia and Syria have always been toilsome, always insecure. They were so centuries ago, they remain so to the present hour; and in a country where the habits and customs, nay, even the costume of the people, have been handed down from generation to generation, with hardly, if any, change or deviation, we think we are justified in supposing that the roads travelled over by the natives dwelling on the sea-coasts of Syria and Palestine are the same as were travelled over by their ancestors in the days when Paul, Barnabas, and Peter were at Antioch; and there is no reason to doubt but that one, if not all three, of these Apostles visited Laodicia, the Latachia of to-day.

It was midnight when we, gliding almost imperceptibly over the smooth waters of the summer sea, passed under the solitary lantern that glimmered feebly, in wretched imitation of a lighthouse, from the small windows of a miniature tower, erected by the Ottoman government, on the summit of the rock that formed the natural portal of the once secure and commodious harbour of Latachia. To the right, and from this rock to the mainland, a distance of not many hundred yards, dark-looking fragments of masonry indicated the ruins of the once solid breakwater; to the left, a natural curve in the bay formed a small promontory, and from this promontory to the rock, a distance of not more than fifty yards, was the deep and secure entrance channel. But few vessels were lying in the harbour when we entered, and the whole place was wrapt in solitude and darkness. Our little feleucah at last anchored within a yard of the landing-place; but as there was a quarantine establishment here, none dared to land before the authorities should have inspected our bills of health and granted us a permit. The night was pleasant and cool, but curiosity was on the tiptoe, and we felt no inclination to sleep, especially as our miserable accommodations were close and confined, besides being infested with vermin; by and by, the moon came peeping over the lofty hills at the back of the town, and when she

had thrown her silvery beams upon all around, then, indeed, the picture presented to us was one that a painter might dream of but barely realize. The ocean, like one vast sheet of silver, extended on one side, with ever and anon the small sail of sponge-fishers' boats, glimmering up like a bright flash, else shadowing darkly over the waves. As the vessel rose or fell with the tide—in the harbour itself things were yet indistinct—the moon capped with a silvery crown the tops of dark-looking stately houses, or sent her beams to sport like elfins amongst the dark leaves of the walnut-tree, but beyond this all was misty and confused. By and by she grew paler, the tops of the mountains more distinct; often we caught sight of a goatherd, and listened to his voice as he led his flock thus early forth to graze; thousand of larks sang their morning hymn of praise; cocks crowed lustily, hens cackled; the morning star set behind a deep line in the horizon, and the first grey tinge of dawn appeared. What a time! what a prospect! to raise up one's heart with thanksgiving towards the Great Creator of all, to sing with David—

“The dawn of each returning day
Fresh beams of knowledge brings.” (Psalm cxix. 2.)

The morning has fairly broke, and the people around us awake to life and activity: on board the little vessel they are busy washing and scouring the decks; on shore, sweeping and preparing for the bustle of the day. Down comes an austere-looking person, wrapped round with an ermine cloak; he inspects our paper, accords the permit, and we jump on shore light-heartedly, glad to escape from the cramped-up limits of our little boat. Close to the landing-place, the jetty itself being all tiled in, are the custom-house, quarantine office, and some merchants stores on the one side; on the other, one or two convenient coffee-shops which overlook the harbour. Here seated on diminutive stools, and partaking of their morning's cup of strong coffee, we encounter a motley assembly, comprising Turks, Christians, Fellahs, and even several of the European inhabitants, who, though they live in the town a good half-mile distant from the sea-side, have contrived to get down here thus early to luxuriate in the sweet freshness of the morning air. Many, also, habituate themselves to sea-bathing, than which no recreation can be more healthful in such a climate as that of Latachia. Leaving this assemblage to the enjoyment of their *keif*, we, following the small donkeys that are loaded with our baggage, pass through a desolate street of lofty ominous-looking buildings, which with their closely-barred windows have more the resemblance of prisons than anything we can compare them to; these were the private residences of the more opulent citizens in bygone days, when commerce flourished, and when the population might have been reckoned by thousands, instead of by tens as is now the case. Save by the owl and the hawk, these places are now utterly forsaken; their vast courtyards serve as granaries and sheds for cattle, but scarcely a human being enlivens their solitude. Emerging from this gloomy part through a tottering gateway, we enter upon a wild and uncultivated country, and here, for the first time, journeying southward, meet with the cactus or prickly pear, growing in great luxuriance; here, also, the Arab bulbul, with its black tufted head, is twittering forth its gratitude to that careful Guardian whose forethought for the wants of all creation has abundantly supplied these wants in the spontaneous productions of the earth. The Arab bulbul, so long as the season lasts, lives almost exclusively on the fruit of the cactus; and when these are done, and winter's

gloom spreads over the land, they then, by intuitive instinct, wing their way southward to more congenial climes :—

“O praise the Lord with hymns of joy,
And celebrate His fame.

* * * * *

He savage beasts that loosely range,
With timely food supplies ;
He feeds the ravens' tender brood,
And stops their hungry cries.” (Psalm cxlvii. 1, 9.)

Passing over this place, a quarter of an hour's smart walking brings us to the gardens which form the environs of the present town of Latachia ; these are all securely hedged in with cactus, growing so tall as to exclude the prying eyes of the inquisitive. Passing one of the gates, however, we catch a glimpse of the interior economy. The gardens contain chiefly fruit trees : amongst these figs of twenty varieties, the sweet-kernelled apricot, and the sour as well as the sweet pomegranate ; of these the pulp of the former is boiled down, and becomes a sharp stringent acid, much used by the natives in culinary purposes. The houses of the peasants are constructed much upon the same principle as those at Suedia—if anything, larger and better adapted for ventilation, for the heats in Latachia during the summer months are intense, and ague is oftentimes prevalent. We entered the town through a tottering archway, on either side of which immense dust-heaps impregnated the air with odours of all the impurities there suffered to decay, before this matter is transferred as manure to the silk gardens of the more opulent inhabitants. Passing through a dark and filthy street, liberally bestrewed with the skins of water-melons, cucumbers, and other nauseous matter, besides a multitude of dead cats, rats, and other vermin, we rejoiced to find ourselves once again breathing the pure atmosphere of heaven, on an elevated piece of ground, to the right of which stands the principal Turkish Mosque in the town, whilst to the left are a long range of handsome modern dwelling-houses, the residences of the various native consular agents, each house boasting a flag-staff, from whose summits the banners of European nations were proudly floating in the air. The Mosque, which is the handsomest one in the town, has a singular tale connected with it, for the truth of which all the more respectable inhabitants vouch. The story goes, that some years since a devout Sheik il Islam, chief of the Moslem faith, under whose charge the Mosque was, and to whom the keys were confided, on one occasion locked himself in, and for three consecutive days refused admission to any of the natives. The Turkish populace at length, being infuriated at this conduct, burst open the doors, when to their astonishment the Sheik il Islam warned them to stand off, telling them they were all infidels, and that there was no true religion in the world save the religion of the Christians—a denouncement which caused the infuriated Turks to strangle him on the spot. The Turks in Latachia are to this day the most fanatical in the whole of the Turkish empire ; a bad people, addicted to every imaginable vice. Latachia is of modern years noted for the vast quantities of very superior tobacco which it annually ships into Egypt and to all ports of the Mediterranean : this leaf is chiefly grown at the small sea-side town of Gibili, ten miles to the southward of Latachia. Its present population may be estimated at about fourteen thousand ; five thousand Christians, chiefly of the Greek church, four thousand Turks, and the remainder, with the exception of some hundred Catholics, Fellahs, descendants of the wild mountain tribes, and not a

single Protestant. The silk here produced is inferior to that of Antioch and Suedia; and one great drawback to the furtherance of cultivation and commerce is the great scarcity of water: large wells are dug in the gardens, and these, with wheels worked by oxen, irrigate the land, though very insufficiently. In the very heart of the bazaars massive clusters of ruins are to be seen which clearly tell a tale of bygone greatness and splendour—a striking proof of the vanity of all earthly hopes or enjoyments:—

“We build with fruitless cost, unless
The Lord the pile sustain;
Unless the Lord the city keep,
The Watchman wakes in vain.” (Psalm cxvii. 1.)

A VISIT TO AUSTRALIA AND ITS GOLD REGIONS (*continued*).

THE COLONY OF VICTORIA, ITS EARLY HISTORY, AND RAPID DEVELOPMENT.

IN the voyage out, as described in the first chapter, the journey terminated at the city of Adelaide, the capital of South Australia; but had the destination of our ship been Port Phillip, she would have taken a different course, and instead of wearing to the north for the Gulf of St. Vincent, would have continued to steer eastward till she reached Bass's Strait; bearing then to the northward, the land would come in sight on our left hand, and as we rapidly advanced, Cape Schank would soon make its appearance on the right, and our course would then lie between shores that stretched away on either side, bold and high, and everywhere surmounted by the evergreen forest that thence stretched inland. In the distance ahead the land gradually closes in to a narrow inlet, forming apparently the bottom of a deep and dangerous gulf, as the furious surf with which it is lined would lead us to believe. On a nearer approach, however, the rocky coast in front is seen to be parted by an opening whose smooth waters proclaim it to be the entrance to some inner haven. The contracted passage which thus comes into view so unexpectedly serves to separate two promontories scarcely three miles apart at the points nearest to each other: that on the west is called Point Lonsdale; while the other, Point Nepean, is a long strip of rocks and sand. Upon rounding the latter, we are at once shut out from the open sea, and transferred to the threshold of a magnificent bay. Port Phillip Bay, into which we have thus passed, is certainly one of the noblest of its kind; in reality it is an inland sea of considerable extent, about forty miles in length by thirty in breadth, along whose winding shores are to be found many inlets and bays, each one capable of sheltering whole fleets, the most conspicuous of which is the Bay of Geelong, a fine expanse of water running into its western shore, and called, from its extreme beauty, “the second Bay of Naples” At the upper extremity of the lake lies Hobson's Bay, the port of the city of Melbourne, which is the capital of that splendid pastoral country, formerly a district of New South Wales called the Port Phillip District, but now the independent colony of Victoria.

Our knowledge of the existence of the Bay or Lake of Port Phillip is due to Lieut. Murray, of the Lady Nelson, who ascertained its existence in carrying out a series of exploring expeditions projected by Governor King. The description by the discoverer of the portion which he beheld, and especially of the shore, written, as it was, about fifty years ago, might nevertheless be copied by the traveller of to-day: without a word of

alteration, so exactly does it convey the principal features by which the surrounding locality is marked:—"The southern shore of this noble harbour is bold high land in general, and not clothed, as all the land of Western Port is, with thick brush, but with stout trees of various kinds; and in some places falls nothing short in beauty of appearance to Greenwich Park. Away to the eastward at the distance of about twenty miles the land is mountainous. There is one very high mountain in particular which in the meantime I named Arthur's Seat, from its resemblance to a mountain of that name near Edinburgh." Subsequently the enterprising Flinders made an accurate survey; and the report which he brought back was so favourably received as to induce the Government about a couple of years afterwards to choose it as a place for the establishment of a penal settlement. The spot, however, selected for the purpose was (fortunately) the worst within a wide circuit; it was upon Point Nepean, the headland of which, running out from the east, parts the bay in that direction from the sea. On further trial nothing was found to counteract its many disadvantages; water could only be procured at that point by digging wells in the sand, a source, however abundant at the time, far too limited to supply a growing population. The country in the immediate neighbourhood showed no prospect of being properly cultivated, and, at the same time, no vigilance could prevent the convicts from making their escape into the woods. Governor Collins therefore abandoned his original purpose, and set sail for Van Diemen's Land, and landing there on the shores of one of the finest bays in the world, laid the foundations of Hobart Town.

For many years subsequent to this attempt, the magnificent country of Port Phillip continued undisturbed by the foot of a white man; for of the many exploring parties sent out by private individuals, as well as by the Government of New South Wales, none followed the road to Port Phillip; probably deterred by the unfavourable circumstances under which the first expedition quitted it. In the year 1824, however, Messrs. Hovell and Hume, two influential settlers in the Sydney district, determined upon attempting to reach the abandoned settlement overland. The account of their journey affords one a tolerable idea of the difficulties of inland exploration, and of the indomitable energy required to overcome them. Their travelling equipage, at the commencement of their journey, consisted of two carts, containing supplies, drawn by four bullocks; these were accompanied by six men, each armed with a fowling-piece; and two horses ridden by themselves, with a spare horse, completed their outfit. Departing from Lake George, they left the last trace of civilization behind, and entered at once into the wide expanse of an unknown interior, guided only by a small compass and the calculations made with an imperfect sextant.

At the distance of eleven miles they met the Murrumbidgee. This stream, thirty or forty yards wide, presented in its swollen waters a bar to their further progress for the space of two days; after which, finding delay useless, they contrived to form a punt out of one of the carts, by tying a tarpaulin tightly round the bottom of the vehicle. From this point, having transported themselves and their goods dry and in safety to the opposite shore, they pursued a W.S.W. course for four days, when, from the mountainous character of the country before them, it was judged advisable to abandon the carts and such quantities of the provisions as could most easily be spared, concealing them till their return. From this hastily constructed depôt they advanced for seventy miles over different ranges, precipitous

ravines, and opposing streams, relieved at intervals by strips of lightly wooded pastoral grounds, until they came suddenly and unexpectedly in view of a belt of stupendous mountains—the Australian Alps. Here their course was necessarily altered a few points to the westward, to enable them to avoid the diverging branches of this enormous chain; and after a journey of eighty-five miles, they discovered a river (the Hume), the breadth of which could not have been less than eighty yards. Two or three days were spent on the banks of this beautiful stream, in the endeavour to find a convenient crossing-place. Pursuing their course, they came, at the distance of thirty-four miles, to another, though much smaller river, which they called the “Ovens;” crossing which, they altered the course of their route to a more southerly direction, and at the distance of one hundred and nine miles they met with and crossed a fourth river, the Hovell (the Golbourn of Major Mitchell). The region passed over between these last two rivers had presented a very favourable aspect, being enriched with fertile plains, open or park-like forests, and numerous streams. The land contiguous to the Hovell was found to be of a quality fitted for every purpose, pastoral and agricultural.

The passage of this stream accomplished, they continued their journey in a S.W. direction, through an agreeable and picturesque country, the soil good and the grass abundant, for eight days, when they were checked by the rugged, stony surface of a mountain they attempted to cross, and the dense and impenetrable nature of its brushwood and jungle grass. To this mountain they gave the name of Mount Disappointment; and, baffled in their attempt to find a breach in the rocky rampart which it formed across their path, they turned their steps, with the intention of passing round its flank. This they accomplished by making a long and tedious detour in a westerly direction; and then once more resuming their proper course, finally received the reward of all their toils by descriing the sea in the distance.

In thus bringing their attempts to a successful close, they had spent two months of hardship, of the severity of which none but those who enter these solitudes can form a conception, and had travelled a distance of three hundred and seventy-eight miles, reckoning in a straight line from the point of their departure. It was the misfortune of these energetic explorers, to have been guided by their anxiety to take the shortest and most direct route, and not that which presented the fewest impediments, and they thus entangled themselves amidst the lofty lateral ranges which the Australian Alps throw off to the westward. Times without number they had to climb with weary steps to the summit of a ridge, only to see Alps beyond Alps rising in the distance across their course, while on other occasions broad streams and dense jungles opposed scarcely less formidable barriers to their advance.

The road thus opened was seen to be practicable for man, though at the cost of immense labour; but it was far otherwise with regard to sheep and cattle, and no one at all acquainted with the difficulties of conveying these, especially in large numbers, through a wooded and mountainous region, would willingly pursue a track beset with so many obstacles. The expedition, therefore, was followed by no practical results, and the district of Port Phillip once more relapsed into obscurity.

The unexampled rapidity, however, with which the available land in Van Diemen's Land (situated immediately opposite to that part of the coast of Australia) had been occupied, and the necessity of finding new tracts of land for pastoral purposes, soon induced the colonists of that island to turn their atten-

tion to the advantage of establishing a settlement in a district so proximate and accessible to them; and with this view an association was formed, which, in the month of May, 1835, despatched Mr. Batman as an agent to open up a friendly intercourse with the aborigines, and, if successful, to effect a purchase of as much land as it was possible to procure; and this gentleman succeeded in obtaining the consent of the aboriginal chiefs, the three brothers, "Jagajaga, Jagajaga, Jagajaga," to assign by deed (of the legal beauties of which they must have been excellent critics) a tract of land of about six hundred thousand acres, the present value of which is almost incalculable, "for and in consideration of" about forty pairs of blankets, one hundred and thirty knives, forty tomahawks, forty looking-glasses, forty pairs of scissors, twelve red shirts, four flannel jackets, four suits of clothes, one hundred and fifty pounds of flour, two hundred and fifty handkerchiefs, and half a dozen shirts, and an annual tribute of two tons of flour, and another "assorted collection" of knives, tomahawks, scissors, looking-glasses, &c., but making the proportion of handkerchiefs to shirts a little more equal. The treaty, however, was not destined to be carried out, for the Government refused to recognise it, as they considered it subversive of the sovereignty which the crown asserted over the ceded territory; and the natives were thus deprived of the opportunity of becoming acquainted with the excellence of our Sheffield cutlery, or of contemplating their beauties in any other mirrors than those natural ones which their own streams and "water-holes" presented to them.

But though compelled to relinquish their position as proprietors, the association were not inclined to abandon a country so valuable, and they therefore began to occupy the land as unlicensed squatters; and such was the eagerness with which their fellow-settlers in Van Diemen's Land appreciated the district, so soon as the veil which had shrouded its real merits had been drawn aside, that within twelve months the infant settlement had risen to the status of a village: gardens had been formed; about fifty acres of rich land prepared for tillage; thirty-five vessels had arrived, principally conveying live stock from Van Diemen's Land; the population amounted to upwards of two hundred; the number of sheep amounted to 20,000; and the country in the interior had been located to the distance of fifty miles.

This settlement, from its very commencement, exhibits a spectacle not to be found in the records of any other colony with which we are acquainted. Its founders not only carried with them their own servants and their own food—all, in short, that was necessary to their existence—but in the immense numbers of sheep transported, they conveyed the elements of a wealth at once boundless and self-productive. With a fair wind, a vessel may run over from Launceston to Port Phillip in twenty-four hours, and this easy and rapid communication gave to Port Phillip all the advantages of a mother-country, as it were, within that distance from which every aid might be furnished as soon as demanded.

The rapid progress of the settlement soon attracted the attention of the Sydney government, and Sir Richard Bourke despatched a police magistrate, accompanied by a small surveying staff, to lay the foundations of a local government; and to the personal exertions and sound views of this enlightened governor the colony owes a deep debt of gratitude. In May 1837 he proceeded in person to the settlement, and laid out the plans of two towns, to which were given the names of Melbourne and Geelong; and before the month of August in the following year, so rapid had been its

progress, as to render it impossible for the memory to keep pace with the movement; brick buildings were numerous, some boasting of two and three stories; little inns were transformed into handsome and commodious hotels; the lines of streets had been cleared, marked, and in some instances were undergoing a process of macadamization; branches of two Sydney banks were in active operation; the population had quadrupled; the country in the interior was occupied to a distance of 120 miles, and the settlers were still pushing on to regions still more remote; and in the month of October following, the first newspaper was published, under the title of the *Port Phillip Gazette*. Thus, in less than two years and a half from the time when the rich plains of Port Phillip were untrodden save by the foot of their aboriginal natives, or their verdure disturbed except by the leap of the kangaroo, the Saxon energy had planted all the elements of modern civilization, which had not only taken root, but were flourishing in full vigour.

It is not within our limits to trace the history of the colony through all its rapid phases. We will therefore pass over a period of fourteen years of rapid development, and by an extract from the *Melbourne Herald* we shall convey a better idea of the progress which the colony had made during that period than by a more lengthened description:—

“Yesterday, July 15, 1851, the first important epoch in our new-born colony was observed as a sort of gala-day in Melbourne, and from an early hour it was evident, from the closed shops and appearance of the citizens, that the hour when at length, after long and harassing years of expectation, their adopted country would be officially declared free, was looked forward to with heartfelt interest. According to previous notification, his Honour the late Superintendent would be sworn in to the public offices at eleven o'clock, and as that hour approached, groups might be seen hurrying towards the spot to witness the ceremonial. At the appointed time there could not have been less than two thousand persons in the area fronting the Government buildings, whilst the upper windows of the edifice were crowded with ladies, who manifested just as much curiosity, and perhaps a little more, to have a peep at the proceedings, as the other portion of the community.

“The police and military shortly arrived, and filed in square, and some pieces of artillery were placed in an adjacent position to boom forth at the proper season the joyful intelligence. Just at eleven o'clock the new Governor, C. J. La Trobe, Esq. appeared in the porch of the building, attended by the resident Judge, the newly appointed Attorney-general, and all the principal officials, the Bishop of Melbourne, the Archdeacon of Geelong, and others of the clergy, and various members of the deputations appointed to wait upon his Excellency with addresses of congratulation.

“E. Bell, Esq., the Lieutenant-governor's private secretary and aide-de-camp, proceeded to read the commission of the Queen appointing Sir Charles FitzRoy the Captain-general and Governor-in-chief of the Australasian colonies; and next, the commission appointing Charles Joseph La Trobe, Esq., Lieutenant-governor of the colony of Victoria.

“The oaths of office were then read over to his Excellency by W. F. Stawell, Esq., the newly-appointed Attorney-general, and duly subscribed in the presence of his Honour the resident Judge.

“Captain Lonsdale next read the proclamation of the Lieutenant-governor appointing his executive council. As he commenced, a discharge of artillery commenced also, and continued at intervals until eleven guns were fired. The national anthem followed, the multitude remaining uncovered. This concluded the ceremony of inauguration.

"The first levee of the first Governor of Victoria was held at two P.M., at which upwards of four hundred and fifty visitors were present; and the day's proceedings were concluded by a ball at the Benevolent Asylum, which was attended by all the rank and fashion of Melbourne. The road from the city was lighted all the way, and lined with policemen. The next morning the proclamation and notices of the various official and judicial appointments, &c., were published in a supplement to the Government 'Gazette.'"

Now, although at first sight this appears to be a very ordinary newspaper paragraph, it is in reality pregnant with information; for it informs us that within the short space of sixteen years, a settlement founded by a few squatters from Van Diemen's Land had progressed so rapidly that its principal city could furnish a crowd of two thousand people as mere spectators at a fête day; that the usual divisions of society in the Old World were already fully apparent, as was evidenced by the presentation of four hundred and fifty visitors to the representative of Her Majesty; that the city was furnished with its properly-organized police, and that the constituted authorities were duly supported by the presence of "the military;" that its ecclesiastical affairs had been so carefully attended to as to have insured the superintendence of a bishop, and that its second town of importance had its archdeacon; that there were a variety of interests or classes, sufficiently distinct and important to appoint each their deputations. And, to complete the picture, we may add that the colony has not only been a self-supporting one from the first, having never cost the mother-country a single shilling, but has attained this position in spite of the Greatest opposition on the part of the Government.

(To be continued.)

HISTORY OF GUTTA PERCHA.

GUTTA percha—pronounced *pertsha*—is, as all are aware, a substance whose history is of only yesterday. If the Spaniards or the French can boast of having introduced caoutchouc to European notice, one of our own countrymen has the merit of the introduction of what will ultimately become a far more important substance than it. Dr. W. Montgomery is generally considered to have been the earliest to draw attention to this important product. In a letter addressed by him to the "Mechanics' Magazine" in 1846, the following concise account of its early discovery is contained, and may be requoted with advantage:—"As far back as 1822, when I was on duty at Singapore as assistant-surgeon to the Presidency, I had obtained the name of it while making inquiries relative to caoutchouc, of which there are several varieties, and some very fine specimens were brought me, particularly one called 'gutta girek;' and I was told there was another variety called 'gutta percha,' and sometimes 'gutta tuban,' which they said was harder than the 'gutta girek;' but none of it was brought to me at that time, and I lost sight of it, having returned to the Bengal Presidency. But being again sent on duty to the Straits settlements, and while at Singapore in 1842, I on one occasion observed in the hands of a Malayan woodman the handle of a parang made of a substance which appeared quite new to me. My curiosity was excited, and on inquiry I found it was made of the gutta percha, and that it could be moulded into any form by simply dipping it into boiling water until it became heated throughout, when it becomes as plastic as clay, and when cold

regained unchanged its original hardness and rigidity. I immediately possessed myself of the article, and desired the man to fetch me as much more of it as he could get. On making some experiments with it, I at once discovered that, if procurable in large quantities, it would become extensively useful; and even if only in small quantities, it would still be invaluable in the formation of many surgical instruments which were made of caoutchouc, which had been dissolved in naphtha or other solvents, which became speedily damaged and totally useless in the damp and hot climate of the tropics. I therefore wrote to the Medical Board in Calcutta, strongly recommending its adoption, and sent specimens of the substance. After having examined it, the Board highly approved of my suggestion, and directed me to procure and send some of it to Calcutta, which was done. I also addressed a communication to the secretary of the Society of Arts, London, and sent some of the substance for investigation and analysis, for which, after my return to England, I had the honour to receive the Society's gold medal. I ascertained that the tree producing it is one of the largest of the forest, growing to the size of three or four feet diameter; that the wood is of no value as timber, but that an edible concrete oil is procurable from the fruit, and often used by the natives with their food."

It appears, however, that a Spaniard, Sir Joze d'Almerida, again contests the honour of first discovery in reference to a substance so closely allied to caoutchouc. This gentleman, having been a long resident at Singapore, came over to England in the beginning of 1843, and brought several samples of the gutta percha with him, some of which he presented to the Royal Asiatic Society, for which he received their letter of acknowledgment and thanks, dated in April in that year. It appears that his attention to the substance had been attracted by noticing the material of which some whips were made. These were brought by some Malays into the town and sold, and so the gutta percha came into his hands. We have no means of stating which of these claims is the most valid, but would leave them where they lie for others to decide. It is highly amusing to find our neighbours the French also trying to establish a claim to the discovery of gutta percha, which is described in some of their journals as one of the happy results of their expedition to China. At the very period of the despatch of this expedition gutta percha was already patented in England!

The introduction of gutta percha into England is thus described by a writer in the "Illustrated London News":—

"It is not quite eight years since the substance called gutta percha was transmitted from Singapore to the secretary to the Society of Arts, for the purpose of subjecting it to a rigid examination, in order to ascertain whether it would be desirable to collect it in large quantities, which were easily obtainable in that island, so that as a new article of commerce it might, with as little delay as possible, be introduced to this country. The samples sent to the Adelphi, by Dr. Montgomery, were contained in a small deal box, and consisted, first, of the juice of gutta percha in a bottle; second, thin pieces of the substance, in appearance somewhat resembling leather; third, the gutta percha in its concrete state; and, lastly, lumps of the gutta percha formed by agglutinating the thin pieces together by means of hot water.

"Chemists, manufacturers, and others were all anxious to obtain small pieces of the material, for the purpose of making experiments therewith. Among these applicants, Mr. Charles Hancock was foremost; and while

the chemical committee of the Society were waiting for the reports of practical men on the subject, this enthusiastic gentleman having had permission to possess a very small piece of the substance, made himself so thoroughly master of the nature of gutta percha, that it was not very long before he took out patents for machinery suitable to the manufacture of articles for various useful purposes to which it has been applied.

"In the meantime, however, the secretary of the Society of Arts had made a variety of experiments with this highly-interesting substance; the result of which was, that, at one of their weekly meetings, he was enabled to repeat his experiments before a full meeting, and produced on that occasion a pipe and a lathe-band, and covered a soda-water bottle with a thin coating of the substance. Impressions of medals which had been produced by the same gentleman were also laid before the meeting."

Two of the staple articles of the gutta percha manufacture, viz., a pipe and a lathe-band, as made by hand, previously to the introduction of machinery for that purpose, were shown in the Great Exhibition. It is an interesting fact, also, that the original specimens sent by Dr. Montgomery to the East India House were likewise exhibited on that occasion, and might have been seen in the Indian collection.

BOTANICAL HISTORY OF GUTTA PERCHA.

The trees which yield it appear widely diffused over the Indian Archipelago; they are common in many places in the island of Singapore, and also in the forests of Johore, at the extremity of the Malayan peninsula. It is also said to be abundant on the south-eastern coast of the island of Borneo. In the forests on the west coast, in the vicinity of Sarawak, Sir James Brooke says, "The tree is called Niato by the Sarawak people, but they are not acquainted with the properties of its sap; it attains a considerable size, even as large as six feet diameter; is plentiful in Sarawak, and most probably all over the island of Borneo." It appears also to be abundant in the thousand islands that cluster to the south of the Straits of Singapore. A writer in the *Journal of the Indian Archipelago* states, that it is found all up the Malayan peninsula as far as Parang. In the vicinity of the latter place it is abundant; yet so ignorant are the inhabitants of the valuable property they have at their own doors, that several mercantile houses, at an early period in the commercial history of gutta percha, sent down to Singapore for supplies of an article that might have been obtained on the spot!

The localities in which the trees delight are the alluvial terraces along the foot of the hills, where they flourish luxuriantly, forming in many spots the principal portion of the jungle. The profusion of vegetation which adorns the Indian Archipelago, and of which the gutta percha tree forms so conspicuous a portion, can scarcely be conceived. The greater part of it is clothed to the water's edge with wood. Passing into the deep shade of its mountain forests, trees of gigantic forms and exuberant foliage rise on every side, each species shooting up its trunk to its utmost measure of development, and striving, as it seems, to escape from the dense crowd; others, as if no room were left for them to grow in the ordinary way, emulate the shape of serpents, compass their less pliant neighbours in their folds, twine their branches into one connected canopy, or hang down, here loose, and swaying in the air or in festoons from tree to tree, and there stiff and rooted. No sooner has decay diminished the green array of a branch,

than its place is supplied by epiphytes, chiefly of the fragrant orchid tribe, of the most singular and beautiful forms.

"The interrupted notes of birds, loud or low, rapid or long-drawn, cheerful or plaintive, and ranging over a greater or less musical compass, are the most pleasing sounds heard; the most constant are those of insects, which sometimes rise into a shrill and deafening clangour; and the most impressive are the prolonged complaining cries of the unkas. As we penetrate deeper into the forest, green and harmless snakes hang like tender branches; others of deeper and mingled colours, but less innocuous, lie coiled up, or, disturbed by the human intruder, assume an angry and dangerous look, but glide out of sight. Insects, in their shapes and hues, imitate leaves, twigs, and flowers. Monkeys of all sizes and colours spring from branch to branch, or in long trains rapidly retreat up the trunks. Deer, and among them the graceful palandoh, no bigger than a hare, and celebrated in Malayan poetry, on our approach fly startled from the pools which they and the wild hog frequent. Lively squirrels of different species are everywhere met with. Amongst a great variety of other remarkable animals which range the forest, we may, according to our locality, number herds of elephants, the rhinoceros, tigers, the tapir, the bábirusa, the orang útan, the sloth; and of the winged tribes, the gorgeously beautiful birds of paradise, the loris, the peacock, and the argus pheasant. The margins of rivers and creeks are haunted by large alligators. An endless variety of fragile and richly-coloured shells not only lie empty on the sandy beaches, but are tenanted by pagurian crabs, which in clusters batten upon every morsel of fat seaweed that has been left by the retiring waves. The coasts are fringed by living rocks of beautiful colours, and shaped like trees, flowers, bushes, and other symmetrical forms."

Such is the vivid description of this scene given by a local writer in the *Journal of the Indian Archipelago*; and amid this exuberance of life the gutta percha lifts its tall head, pre-eminent over many around it.

An interesting account of this tree has been given by Mr. Oxley in the periodical last quoted. From this account we learn that the tree is from sixty to seventy feet in height, and from two to three feet in diameter on the average. In general appearance it resembles the well-known Doorian; so much so as to strike the most superficial observer. The under surface of the leaf, however, is of a more reddish and decided brown than the doorian, and the shape is somewhat different. Only a short time ago this tree, locally called the tuban tree, was tolerably abundant in the Island of Singapore; but already all the large timber has been felled, and few if any other than small plants are now to be found. The range of its growth, however, appears to be considerable, although as yet the inhabitants scarcely seem to be aware of the fact.

The localities in which it most luxuriantly flourishes are, as already noticed, the alluvial tracts along the foot of the hills, where it flourishes abundantly. But notwithstanding the indigenous character of the tree, its apparent abundance and wide-spread diffusion, it appeared at one time very probable that gutta percha would become speedily a very scarce article, in consequence of the improvident manner in which it was collected by the Malays and Chinese. The mode of collection then adopted was the following:—A tree of full growth was cut down, and the bark removed in rings, at distances of about twelve to eighteen inches apart. An empty receptacle, such as a cocoa-nut shell, the spathe of a palm, or such like, was then placed under the fallen trunk, so as to receive the milky sap

which exuded at every incision. The sap was then collected in bamboos, taken to the houses of the collectors and boiled, in order to drive off the watery particles, and to inspissate the liquor to a proper consistence. The process of boiling appears necessary when it is collected in large quantities; but if a gutta percha tree be partially wounded, and a small quantity allowed to exude, and it be collected and moulded in the hand, it will consolidate perfectly in a few minutes, and present the same appearance as that prepared in the other way.

When gutta percha is quite pure, the colour is of a greyish white; but the commercial specimens are more commonly found to possess a reddish hue. This colour arises, it is said, from chips of bark which fall into the sap in the act of making the incisions, and which yield their colour to it. Besides these accidental chips, there is an enormous amount of intentional adulteration by sawdust and other materials. The quantity yielded by one tree, treated in the manner above described, has been stated at from five to twenty catties; so that, taking the average of ten catties as obtained from each, and this is a very liberal one, it will require the destruction of ten trees to produce one picul, or 133½ lbs.

"The quantity exported," proceeds the writer, in the Journal of the Malayan Archipelago, from whence we have borrowed the above account, "from Singapore to Great Britain, from January 1, 1846, to June 1847, amounted to 6,918 piculs, to obtain which 69,180 trees must have been sacrificed. How much better would it, therefore, be to adopt the method of tapping the tree practised by the Burmese in obtaining the caoutchouc from the *Ficus elastica* (namely, to make oblique incisions in the bark, placing bamboos to receive the sap, which runs out freely), than to kill the goose in the manner they are at present doing. True, they would not get at first so much from a single tree, but the ultimate gain would be incalculable, particularly as the tree seems to be one of slow growth. If the present method of extermination be persisted in, there will probably be a cessation of the supply.

SEA-SIDE PLEASURES, No. III. (*continued*).

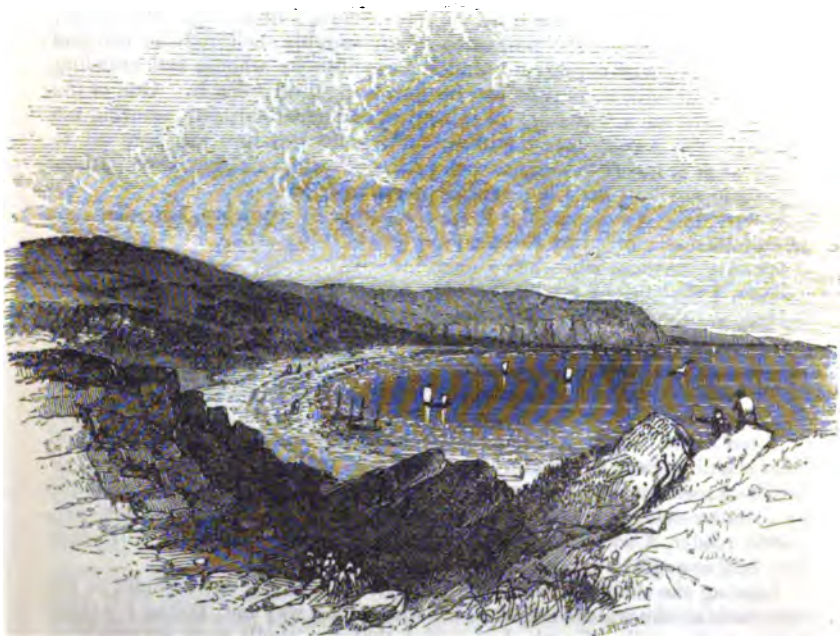
BUT the eye took in the whole expanse of the Sands, extending in a sweeping curve for about three miles, and terminating in a long and lofty promontory known as Baggy Point. The great breadth of this beach of sand, for the tide had now receded far; its uniform yellow hue, unsullied by a speck, save where a flock of gulls were washing their feet in a tiny streamlet; the promontory beyond, chequered over with fields and hedges; the still bolder promontory of Hartland Point (the *Herculis Promontorium* of ancient geography), blue and well-defined, though twenty miles distant, and running out to a great length upon the horizon, were all objects on which the eye of the beholder rested with pleasure. But perhaps more lovely than all beside was the wide expanse of sea, sleeping in azure brightness, and reflecting in one part, as from a mirror of steel, the dazzling rays of the afternoon sun.

The sides of the road were sweet with wild thyme, and gay with the delicate pink blossoms of the little centaury; but what interested me more was that the furze-bushes, for a considerable space, were covered with the leafless stems of that curious plant, the dodder, looking as if hanks of crimson thread had been opened and spread over them.

Just before we arrive at Barricane, the road makes an abrupt bend around the head of a deep and narrow cove, called Combe's-gate; and I ran down the intervening slope of meadow-ground, to look at it. At the seaward edge I found a loose broken cliff, copiously fringed with the lilac spikes of the lavender-thrift—beautiful, but scentless—

“The sea lavender which lacks perfume.” (CRABBE.)

It was now in full blossom, as was also the samphire, which was growing in large bushy masses, of deepest green, about these rocks. Below was a beach of smooth yellow sand, environed by ledges of that peculiarly rough and black rock that I have already spoken of; but towards its head, the cove narrows to a deep gloomy gorge, into the extremity of which pours perpendicularly a slender cascade, about thirty feet high, slightly broken and interrupted, but most picturesque. The narrow cleft down which it fell was fringed with various kinds of ferns and mosses, preserved in the brightest verdure by the spray which continually sprinkled them; and grasses and other herbaceous plants around the bottom were nourished into a rank luxuriance by the same cause. Some of our party, who were familiar with Shanklin Chine, said that the whole scene reminded them of that spot, so celebrated for its romantic beauty.



WOOLLACOMBE SANDS.

And thus we came to Barricane. A steep footpath leads down to an area of what you would suppose to be minute pebbles; but which, when you come down to them, you find to be almost entirely composed of shells. The greater part, indeed, are broken by the waves into minute fragments, but a good number are found in a state sufficiently entire to be worth pre-

serving. A group of women and girls may always be seen, raking with their fingers among the fragments for such specimens. They usually lie at length upon the beach, to work with greater ease; but when a visitor comes down, they throng round him like bees; and he must be a skilful tactician if he be not at least sixpence the poorer when he leaves the cove. Sometimes they offer the shells for sale just as they are found; but more commonly they make with them ornamental baskets, inkstands, &c., by gluing the smaller shells on the pasteboard or stone-bottle, in some kind of regular arrangement, scattering pounded glass upon the work to give it a sparkling appearance.

Among the shells found in great abundance here there are several which I have not met with in any other part of this coast. Besides two or three little kinds of whelk, and the common *murex*, and *purpura*, which are everywhere abundant, and the beautiful little cowry, which cannot be considered rare, there is the elegant wentle-trap (*Scalaria communis*), the elephant's tusk, or horn-shell (*Dentalium entalis*), the cylindrical dipper (*Bulla cylindracea*), called by the local collectors, "maggot," and the beaded nerite (*Natica monilifera*), a large and beautiful shell, to which the women have given the euphonious appellation of "guggy." The comparison of the little white *Bulla* to a maggot is by no means unapt, but the meaning of "guggy" I do not pretend to have fathomed. These "guggies" are frequently tenanted by the soldier-crab, a little rogue of a fellow, strongly armed, that takes possession of any suitable shell that he can find on the beach, insinuating his hinder parts into its whorls, and crawling nimbly about with it, as if he had made it instead of stolen it. One of the girls brought me a "guggy" so inhabited, as a great curiosity, assuring me that the crab was a young lobster. My zoological lore was here all in vain: what is theory compared with practice? The girl had been gathering "guggies" all her life; ought not she to know?

"But," said I, "the lobster lives free out in the deep sea, and does not creep into shells, or crawl about on the beach."

"O yes, he does, when he's young."

Then I thought of an irrefragable argument. I broke the shell, and pulling out the intruder, pointed triumphantly to the soft, inflated, and distorted hinder parts. "There! did you ever see a real lobster with a tail like that?"

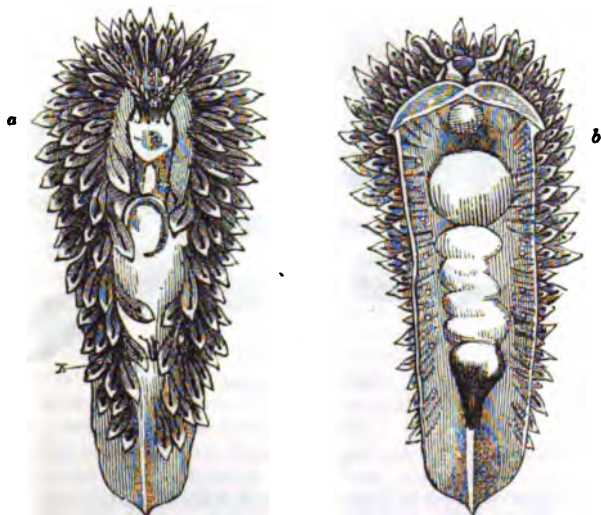
"O yes, he's always so, when he's young. When he gets old, he gets hard."

What could I say? I knew that metamorphoses far more extensive and more startling, both in structure and habits, do really occur in the history of the Crustacea, and as I had only my bare word that this was not an example of a similar change, I was dumb-founded. In confidence to you, however, gentle reader, I will again just say, that he of the "guggies" will never live long enough to become a lobster.

Leaving the shell-collectors, I strolled down the long narrow inlet to the tide-pools at the water's edge. This was a long way out, and as I walked between the walls of rock, I observed that the shells were accumulated only about high-water mark; below this all was yellow sand to the sea.

The rock-pools were deep, narrow, wall-sided, and dark; all which qualities rendered them first-rate exploring ground for a naturalist. Finding I could not rifle their treasures from without, I stripped and jumped in, working away with my hammer and chisel as long as I dared, with the water as high as my breast.

Among the sea-weeds there were two growing in this deep pool far under water, which I had not before met with. One was *Cladostephus verticillatus*, consisting of stalks much branched, no thicker than threads, but set round at short intervals with close whorls of minute olive-coloured hairs. The other was a rare species, though sufficiently abundant here,—*Taonia atomaria*, resembling a thin yellowish leaf, split into several divisions, and cut to somewhat of the shape of a fan. The whole leaf is crossed by many dark-brown lines, which on being magnified are seen to be composed of dots clustered together in this manner. These are the spores, or seeds of the plant.



Antiope cristata (magnified); a, viewed from above; b, viewed from beneath.

It would take up too many pages of the *Home Friend* if I were to attempt descriptions of all the curious animals that I found during the half-hour that I spent in the water of this rock-pool. They afforded me matter for observation and study for many days afterwards, and in all I found fresh displays of the glory of Him whose Name is above every name. One of them, however, a creature of exquisite beauty, I must just mention. It was the Crested Antiope, one of a numerous tribe of animals allied to the slugs of our gardens, but formed to live and breathe beneath the sea, by means of organs which are exterior to the body. The accompanying figures from a drawing which I made of my captive will give an idea of its general appearance. The breathing organs are very numerous; they consist of oval bags delicately pellucid, arranged all round the sides and front of the animal, and have an extremely elegant appearance. Each one has a brown line running through its transparent substance, and is tipped with silver-white. The general colour of the animal is pellucid grey, with spots and lines of opaque white that have the lustre of silver. It is about an inch in length. The tribe of animals to which it belongs is known as the *Nudibranchiate* (that is, naked-gilled) *Mollusca*: about a hundred species are enumerated as natives of the British coasts, and these

are now in the course of being described and delineated in a very splendid work by Messrs. Alder and Hancock, published by the Ray Society.

“O the depth of the riches both of the wisdom and knowledge of God ! For of him, and through him, and to him are all things : to whom be glory for ever. Amen.” (Rom. xi. 33, 36.)

P. H. GOSSE.



GROUP OF SHELLS.

BUXTON.

“Scenes must be beautiful which daily viewed
Please daily, and whose novelty survives
Long knowledge and the scrutiny of years.”—COWPER.

MINERAL waters occur in every part of the world, differing in the ingredients which they contain, according to the channel over which they have flowed, and also varying considerably in temperature. Most of them are of the temperature of the surrounding medium, the others vary in degree, from the moderate heat of Matlock, Buxton, and Bristol, to the hot Geysers of Iceland, which, the Philosophical Transactions state, will “in a quarter of an hour boil a large piece of beef.” Springs of a very high temperature also exist in the vicinity of subterraneous fires and volcanoes, and are frequent on the Continent, especially in the kingdoms of Sicily and Naples. The hot springs at Aix-la-Chapelle have long been celebrated, and one of these, the Borcette spring, is of such high temperature that it may almost be termed a boiling one. The women of the village constantly employ it for the purpose of washing, and the large smoking cauldron which is open in the middle of the street at Borcette has a very strange appearance, the vapour rising and spreading up and down it to a considerable distance. At Wiesbaden is a most remarkable spring, or rather assemblage of springs, the temperature of which is 140° at all seasons of the year, and which retains its heat longer than any other water of the same temperature. The fuming waters have been compared “to

very hot chicken broth," and are used both as drink, and bath. In the latter form they present to the bather a surface of "dirty-white thick froth," which is by no means inviting; but they have an invigorating effect on the frame, and are even sent bottled, as a cosmetic, into various parts of Europe. The boiling spring of the Geyser, and some hot springs of India, contain a considerable quantity of siliceous earth in solution.

The mineral and medicinal waters of Derbyshire are, as might be expected in a country abounding with fossils, very numerous. All those of a chalybeate and sulphureous nature arise in beds of shale, and probably derive their impregnation from this substance; the warm springs also are observed to appear near these beds, though they break out in the stratum of limestone almost exclusively.

Amongst the sulphureous waters of the county, that which is highest in repute rises in the park of Lord Scarborough, at Kidleston; this in temperature is about 47°, and is principally valued for its antiscorbutic properties. In a glass, it looks clear and transparent; but in the well, it appears of a blackish-blue tint, and any substance thrown into it assumes the same hue. Waters of this kind are distinguished by rendering metallic silver black, or causing a brownish-black precipitate, with a solution of acetate of lead or nitrate of silver. This arises from the union of the sulphur with the metallic silver, or lead. It acts in this way on several of the metallic oxides, one of which constitutes the "pearl powder" of the perfumers; and a lady who employed this cosmetic found, to her horror, after taking a sulphureous water bath, that her complexion had become of a dingy brown colour.

Sir Francis Head mentions a very remarkable spring of this kind, at Langen Schwalbach, in Nassau, from which a suffocating gas constantly ascends; in spite of which, however, the Jews residing in the village constantly drink, cook, and wash with the water.

The chalybeate springs of Derbyshire are, as we have remarked, very numerous, but the most celebrated waters are those of Buxton and Matlock, warm springs which have attained such celebrity, from their medicinal virtues and picturesque locality, as to be the annual resort of a crowd of visitors, who flock to them as much for pleasure as for health.

The tepid waters of Buxton were held in great estimation from a very early period, and an interesting confirmation of this fact was discovered about a century since, when the remains of a Roman bath, near the source of one of the springs, was brought to light. In 1571, Dr. Jones wrote a treatise on the virtues of the waters, which greatly added to their celebrity, and from that period to the present they have preserved their reputation and popularity.

The town of Buxton is situated in a deep valley or basin, surrounded by the bleak hills and extensive tracts of moorland which form that part of Derbyshire called the High Peak; and but for the narrow ravine through which the river Wye flows on its way to the Derwent, and parallel to the high road leading to Bakewell, would be entirely environed with mountains. Axe-edge, three miles from Buxton, is, next to Kinder Scout, the highest mountain in the N.W. of Derbyshire, being 1,000 feet above the valley in which Buxton-crescent stands, and 2,100 feet higher than the town of Derby.

From this mountain, four rivers rise in opposite directions, the Wye, the Dove, the Goyte, and the Dean. Chee Tor, a perpendicular and stupendous rock of limestone 360 feet in height, is about five miles distant; and a

few miles further, Mam Tor rears its majestic head 1,500 feet above the valley in which it stands.

The first convenient house built near the springs, for the accommodation of visitors, was erected by the Earl of Shrewsbury about 1568, and its construction soon caused the place to become one of general resort. During the reign of Elizabeth, the unfortunate Mary Queen of Scots paid it a visit more than once; and in the old hall is still shown a window, on the glass of which are scratched, in Latin, Cæsar's verses upon Feltria, applied with some slight alteration to Buxton by the captive queen, and which have been thus translated:—

“Buxton, whose fame thy milk-warm waters tell,
Whom I perchance no more shall see, farewell!”

Buxton now consists of two parts, the old and new town, and in the latter stands the immense pile of buildings erected in 1781, at a cost of 120,000*l.*, by the late Duke of Devonshire, called the Crescent, and which enclose the baths, five in number. One of these is called St. Ann's well, and over it is raised a small Grecian temple. By the side of the white marble basin, into which the water issues from the spring, is a double pump, which excites the astonishment of strangers, by producing either cold or hot water, within a few inches of each other. The spring flows at the rate of sixty gallons a minute, the water being somewhat colder than the waters at Bath, but warmer than those of Matlock and Clifton, the almost invariable temperature being 82° of Fahrenheit's thermometer; it is clear, sparkling, grateful to the palate, while the temperature as a bath is peculiarly agreeable. Its beneficial tendency is particularly apparent in gout and rheumatism, and general debility of the system.

A chemical analysis decides the Buxton water to be slightly impregnated with mineral matter, particularly calcareous earth, sea salt, and acidulous gas, with perhaps some other permanently elastic vapour.

A charitable and useful custom prevails at these baths, which is worthy of notice; it is that of collecting the sum of one shilling from each visitor of more than a day, on his arrival, to form a fund for the poor who have resort to the waters. In 1572 a fixed rate existed, according to the dignity of the visitor, and the money raised was divided equally between the physician and the poor bathers.

The environs of Buxton abound with natural curiosities and romantic scenery, among which, the high perpendicular crags, bordering the valley of the Wye and “Poole's Hole,” as it is called, are among the most interesting. The latter is a cavern of considerable dimensions in a limestone rock, contracted in its entrance but spacious in the interior. The tradition of the country says, that it took its name from having been the residence of an outlaw of the name of Poole, and if so, very secure must have been the retreat, as the passage is at first so narrow that for about five-and-twenty yards, it is necessary to proceed in a stooping posture. The passage then widens into a lofty and spacious cavern, the roof and sides of which are covered with stalactites, one of which, more remarkable than the rest, about the middle of the cave, is called “the flitch of bacon.” Here the cave again contracts, but beyond it becomes wide and lofty, as far as a large massy column of stalagmite denominated “the Queen of Scots' pillar,” so named from a tradition that she once proceeded as far as this point.

The droppings of the water, laden with calcareous matter, falling on the rugged floor, form many masses of stalagmite, which the fancy of those

who show the cavern liken to many articles of common life. The whole length of the subterraneous passage is about 769 yards; it belongs to the Duke of Devonshire, and is granted by him to nine old women, who act as guides, and receive the money given by the visitor, who they conduct into the cavern by a path which winds along the side at some height from its bottom, bringing him back by one which is on the ground floor, if it may be so called. By this change of path, an opportunity is afforded of clearly ascertaining the height and width of the cavern in every part, and of better viewing other accumulations of stalactite, some of which are of prodigious size and remarkable form. Above "Poole's Hole," on the sides of the hill, are the kiln and limestone quarries, which give employment to more than a hundred families. They live like the Troglodytes of old, in dwellings not built but excavated out of the ashes which have been thrown here from the lime kilns, a considerable quantity of lime being burnt, and sent into distant parts by the Peak Forest Railway not far distant. Near this spot is a place called Diamond Hill, from its furnishing quartz of an hexagonal form, known by the name of Buxton diamonds, the whitest of which have the property of cutting glass.

The wells about this neighbourhood consist of beds of limestone and of lava or toadstone, which lie alternately one upon the other, and in many parts of the country are several yards thick. There are many shops in Buxton for the sale of its mineral productions and those of the Peak, manufactured into various articles of ornament and use, besides fossils and specimens of interesting natural curiosities. Among these is the beautiful spar, found near the shivering mountain, Castleton, and called "Blue John." It was formerly used in repairing the roads, but is now purchased at the expense of forty guineas per ton, for the purpose of being manufactured into vases &c. This fluor spar, frequently confounded with calcareous spar, differs from it most essentially. It contains an acid, the most penetrating of any yet known, and which is very different from the carbonic. This acid, from its peculiar properties of corroding glass and siliceous substances, has been employed in France for engraving glass plates, and the specimens obtained are reported to be of singular beauty. When moderately heated, this spar becomes phosphorescent; in a strong heat it melts of itself, and emits flames that are extremely noxious; by a certain degree of heat, its blue colour changes to a fine red, or reddish purple, but with a greater heat all its colours are discharged and it becomes white. The mountain in which it is found appears itself like an assemblage of vast rocks of limestone, without connection or regularity, and is full of openings or caverns of immense depths, while the fluor spar is found in pipe veins of various directions, and in great number and variety.

The scenery in the neighbourhood of Matlock has been said to present a close resemblance to that of Saxon Switzerland. It has certainly more wood, and quite as much rock; and though the river Derwent is, it must be confessed, a less considerable stream than the Elbe, yet the natural and geological features of both places are precisely the same.

In each, stratified rocks form part of the scenery, rising to a height of 6,700 feet, and evidently formed at the bottom of an antediluvian ocean, with a river winding through the deep and perpendicular cliffs. At Matlock baths, these are more richly clothed with verdure, but the ledges of rock called "Abraham's Heights," and the romantic rocks around them, present a close epitome of the splintered pinnacles seen at the summit of the Bastei. They have been severed from each other by time or earth-

quakes, and are chiefly covered with moss ; some, more than a thousand feet above the Derwent, appear as if hanging in a most precarious manner over the flood, which sometimes flows in a smooth and gentle stream, reflecting the pendant boughs that wave on its margin, and sometimes rushes onwards with great impetuosity over a bed of rugged rocks. But the picturesque scenery of Matlock vale is seen to most advantage when approached from the bridge at its northern extremity, as its beauties then succeed each other in a regular gradation of striking objects. Foremost, we see a vast rampart of limestone rock, clothed with yew trees, elms, and limes of singularly beautiful form and foliage, from the recesses of which peeps the humble church of Matlock. As we advance, the High Tor rears its vast head to the height of three hundred and fifty feet, the lower part clothed with rich underwood, but the upper, for fifty to sixty yards, presenting a broad mass of naked, perpendicular rock. The fragments that have fallen from this eminence form the bed of the Derwent, which flows immediately under. Opposite to this fine Tor, but rising with a more gradual ascent and to a greater elevation, is Masson Hill, a pile of immense crags, bearing, as we have before remarked, the name of the "Heights of Abraham," and which command a beautiful bird's-eye view of the whole dale, about two miles in extent, and one of the finest in Derbyshire. From this point, even the High Tor loses its sublimity, but may be distinctly traced as forming a part of the chain of rocks which bound the river on the east.

A GENEROUS FOE.

How vast are the blessings of a time of peace, none but those who are acquainted with the horrors of war can fully estimate or comprehend. Those persons, however, err greatly, who, extolling the comforts, the happiness, the virtues, peculiar to the first, deny all admiration, all praise, and almost the possibility of the display of any quality but such as is disgraceful or degrading to human nature, to the last. Man is essentially the same under all circumstances, and though situation may influence him, it cannot wholly alter him. The shepherd's pipe may gently echo in vales that cruelty and selfishness inhabit, while the trumpet-call and the shrill fife have resounded in many a battle-field, honoured less by the glory of conquest and national bravery, than by individual acts of mercy and disinterested kindness.

It was the third morning after the memorable storming of the heights of Vera, in the year 1812, by the troops under the command of the illustrious Wellington, that a young British officer, who had on this, as in many previous hard-fought encounters with the enemy, signally distinguished himself by his bravery, skill, and energy, resolved, by way of recreation and pleasure, to pay a visit to head-quarters, from which the brigade, to which he was attached, lay at some distance. He had a double motive in this ; he wished to see his brother officers and friends, and he was desirous of making some purchases for the young and lovely being to whom he had lately united himself. This, however, he confined to his own bosom, making open profession only of the former intent. Arrayed, with scrupulous care, in his best suit, full of animation and happiness, he mounted his horse.

Leaving the road, he determined on ascending the heights, and taking a view of the former scene of action. He had some difficulty in accom-

plishing his design, but this was disagreeable neither to his horse nor himself; the ardent temperament of both being perhaps equally gratified in the overcoming of an obstacle. All was now still and deserted; the breeze alone sighed where the sharp bullet had whistled, and broken boughs and the upturned and torn sod told only of what had been there lately transacted. The moralist, or the man of contemplation, might have found abundant food for thought, and that of a melancholy kind. Not so our hero; happy reflection, as well as cankering care, "slights both the season and the scene;" and "forgoes not," in any situation, "what she feels within." He made his observations, traced the plan of operation, made himself master of all he desired to know, and was preparing to descend, when a groan, so full of pain and suffering, that it could not fail to arrest attention, for the moment startled him. He looked around, concluding that it proceeded from some unhappy being who had been overlooked, and so left to perish. He checked his horse, and attentively listened for a repetition of the sound. All, however, was silent, and he again put his horse in motion. At that instant, a deeper groan, accompanied with a feeble cry, as for assistance, pierced his ear. Dismounting, and holding the bridle in his hand, he made his way through some bushes, in the direction of the spot from whence the sound proceeded. What a sight met his eye! there lay a poor French soldier, both of whose legs had been carried off, above the knee, by a shell.

The brave heart of the Brigade Major (for such was his rank) was moved by the deepest compassion. He spoke in the kindest accents to the poor sufferer; but though he endeavoured, both by Spanish and French, to make himself understood, his efforts were unavailing, nor were the motions he attempted to convey his meaning—that he would go in search of assistance—better comprehended, or, if comprehended, they were evidently not believed. The look of anguish that the Frenchman gave him, as the officer prepared to remount, and the bitter and hollow groan he uttered, as the latter was departing, told plainly, and in a manner never to be forgotten, that the hope of assistance which had sprung up in his bosom was abandoned in despair. "you leave me then to die," he seemed to say,—and perhaps he had said so to others before.


Our hero accurately marked the bearings of the spot: he then bent down the bushes at intervals, till, reaching the road, he broke off a bough, which he carefully laid at the point of intended ascent, and then galloped quickly towards head-quarters. Denying himself the gratification of exchanging a word with any of his friends, he hastened to the hospital. His request of immediate assistance was instantly granted. A stretcher and bearers were ready in a few minutes, and under his guidance on the road to the heights. The bough he had laid at the foot of the ascent was easily found. It was neither an easy nor a rapidly-achieved undertaking to regain the spot where the soldier lay, nor could it have been accomplished but for the precautions that had been previously taken. Having seen the poor creature properly placed on the stretcher, and guided his bearers to the descent, he left them to complete their task, whilst he returned to his own division. The day was gone, he had been deprived of the pleasure he had anticipated, he had seen no one at head-quarters, he had brought back no little present, as he had hoped, for the beloved of his heart, but the joyous tone of his voice, and the cheerfulness of his countenance, as he entered his temporary home, gave clear proof that he felt no regret.

The active life of a soldier, during a campaign, admits of few opportu-

nities for the indulgence of reminiscences, and the truly generous, well contented with the simple pleasure arising from the performance of a noble deed, are the first to forget the act that reflects honour on them—and would they were the only persons who could so forget it! The officer thought no more of the wounded Frenchman. Several months had passed, when, riding in company with some of his brother officers, he drew aside to let a waggon, laden with convalescent soldiers from the hospital, pass. All at once a loud cry proceeded from it. “*Merci, merci!*” exclaimed a man with outstretched arms towards our hero; “*Merci, merci, monsieur!*”

It was the poor Frenchman, whom the Brigade Major had rescued. The finger of gratitude had indelibly imprinted the features of his benefactor on his mind, and they were recognised at once by him, while his had entirely escaped the memory of his deliverer, nor would it have been easy to have identified that animated countenance and joyous voice with the ghastly face and piercing groan which had first awakened compassion. The smile that was returned by the officer, when he really acknowledged him to be the same, awoke fresh acclamations of gratitude, and the poor fellow continued to shout, “*Merci, merci, monsieur!*” till he was out of sight and hearing.

The parties have never met from that moment to the present, and they are, in all likelihood, equally ignorant of the fate of each other. The officer has since risen to considerable rank, and stands very high in reputation. Recent circumstances have brought him very prominently before the public, and it is far from improbable that his name has been frequently yet unconsciously pronounced by the poor crippled Frenchman, if he is alive, without the slightest suspicion of his own individual interest in it. But is the deed forgotten by Him “whose eyes are in every place, beholding the good and the evil,” or cancelled from the great book of account preserved by the Saviour and future Judge of mankind, on whose word we rely that every act of kindness shown to our fellow-creatures shall be placed to his credit, and that as such the simple gift of a cup of cold water shall not lose its reward? Oh no! safe in the book of life this act is registered, to be brought to remembrance and open light when mercy shall plead against justice, and every secret shall be revealed. Then will a late though sure recompense be accorded, if, indeed, it has not already been granted, silently though certainly, in the many signal deliverances in the hour of danger, which have marked the career of this brave and meritorious soldier. In all things “we see, as through a glass, darkly,” and are too apt to ascribe to natural causes what justly belongs to the goodness of a superintending Providence. Not in this instance does a brother’s blood cry from the ground for vengeance, but for holier and better evidence that it has reached the ear of God; and the devout and grateful heart reads and acknowledges in these returns of preservation the truth of the declaration though uttered in a different sense, “I will repay, said the Lord.”



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MATLOCK.



MATLOCK includes, under one name, the village of Matlock and Matlock Bath. The village, which is of very ancient origin, stands chiefly on the eastern banks of the river, while the Bath, of more recent origin, is on the western margin, about a mile and a half from the village; and until its warm springs were brought into notice, its situation, although beautiful and romantic, was only occupied by a few miners' cabins, while the whole dale is mentioned in the time of De Foe as being almost inaccessible from the want of a road.

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The first of the springs was discovered about the year 1698, when the old bath was formed of wood, lined with lead, and a few small rooms were built adjoining the bath, forming, however, but a poor accommodation to visitors. Some years afterwards, the property having changed hands, two large and commodious buildings were erected, with stables and other conveniences, and a coach road formed along the river side from Cromford.

A second spring was found at about a quarter of a mile distant, and another bath erected; and at a still later period a third, three to four hundred yards to the east of that first discovered, and another bath and lodging-house built, now turned into a commodious hotel. The three buildings are respectively called, the Old Bath, the New Bath, and the Hotel. All the hot springs issue at a height of from about fifteen to thirty yards above the level of the river; higher or lower, the springs are only cold and common water.

The hot springs are not of a high temperature, the thermometer in the bath not rising higher than 68° , and in chemical and medicinal properties they are much like that of the Clifton hot-wells, while the surrounding scenery vividly calls that spot to remembrance.

The village of Matlock is chiefly inhabited by persons employed in the lead mines and in the manufacture of cotton, which latter is carried on at the upper end of the dale, in spacious buildings erected for the purpose at the village of Cromford by the late Sir Richard Arkwright. One was also built by him at Masson, and all are worked with water from an "adit" for the use of the mines, called Cromford sough, full two miles in length, and driven at an expense of upwards of 30,000*l*. This throws out from forty to fifty tons of water per minute, and being partly supplied by warm springs, never interrupts the working of the mills, even in the most intense frosts.

The entrance into Matlock dale, by Cromford, is through a deep and narrow excavation in Scarthing rock, and immediately on passing it, the splendid scenery of the dale at once bursts on the eye. Following the ascending road on the left, we reach a hotel, commanding from its grounds a very fine view of the surrounding scenery, and which also possesses an object well worthy of notice in a lime-tree, one of the largest of its species anywhere to be seen in England. Full of years, and yet luxuriant in foliage, it covers an area of more than three hundred and thirty feet in circumference. Under the High Tor a mine is now in operation, and near this mine is the crystallized grotto, which is approached by a wooden bridge over the Derwent; and although of considerable extent, is not so remarkable for its dimensions, as peculiarly interesting from the curiously organized materials of which it is composed. The floor, the sides, and the roof are one entire mass of crystallized carbonate of lime, the general form of which is provincially known by the name of "dog's-tooth spar." Millions of these crystals are here congregated together; some perfectly defined and complete in form, and others only partially developed; and as such a quantity of material in a crystalline state is not to be met with in any other part of Derbyshire, the grotto is therefore deserving of particular attention.

The western bank of the Derwent, for the whole distance between Matlock and the old bath, is one vast bed of tufus or calcareous incrustation, which has been deposited by the waters flowing from the warm springs. This is commonly called "petrified moss," and appears to have been formed on a morass, or collection of moss, shrubs, and small trees; it is extremely porous, and, like the tufas of volcanic countries, highly favour-

able to vegetation. In this stratum, if it may be so called, the two petrifying wells of Matlock are situated.

Petrifying springs are those where the water penetrates the pores of vegetable and animal substances placed in them, dissolves out and removes the particles of which they are composed, and substitutes earthy or stony particles, which are arranged in the same way as those of the former substances, and preserve their general form. The rivers Danube and Pregel, in the course of ages, convert in this manner into petrifications stakes of wood placed in them.

The collection exhibited by the person who keeps the springs at Matlock contains several extraordinary instances of vegetable, animal, and testaceous substances, which have been thus converted into stone by the petrifying process of the well. Among them, we remember seeing a beautiful specimen of a bird's nest and eggs.

Four excellent museums are open to the public at Matlock, the first of which emanated from the distinguished traveller and mineralogist, Mr. Mawe. This contains not only a rich store of the spar and fluor productions of the country, but a great and choice variety of urns, vases, groups, and figures, sculptured in Italian marble and alabaster; minerals, native and foreign, precious stones and shells, with various other natural productions abound.

Diamond engraving on black marble originated in Matlock, being introduced by a lady from Sheffield on a visit to the springs, and who subsequently executed many of the earlier specimens of this mode of ornamenting black marble. Her subjects were chiefly moonlight effects, for which this kind of engraving seems peculiarly adapted. Mr. Rayner has now brought similar representation to a high degree of excellence, and they have quite assumed the character of works of art. The picturesque neighbourhoods of both Buxton and Matlock offer much that is interesting to the artist as well as the naturalist, and many magnificent subjects for the pencil exist, of which we shall not attempt the slightest description, knowing full well how cold and feeble must be the language of mere words in attempting to give an idea of that species of beauty which, as in the scenery of this romantic country, so nearly approaches to sublime grandeur.

ASSYRIA—HUNTING.

"AND Cush begat Nimrod; he began to be a mighty one in the earth: he was a mighty hunter before the LORD: wherefore it is said, Even as Nimrod the mighty hunter before the LORD." (Gen. x. 8, 9.)

In the early ages of the world, when men were few, but yet were energetically extending their sway over the earth, they would find their supremacy continually challenged by the savage animals of the forest and jungle, of various formidable races. The primeval seats of the human family after the flood, and the countries immediately surrounding, into which they would first push their dominion, were then and are still the prolific regions of some of the mightiest and most ferocious of the brute creation, ever ready to contest with tusk and horn, talon and fang, the lordship of man. The kingly lion, the tiger, the leopard, and the panther lurked in the covert, thirsty for blood; the wooded mountain sheltered the secondary *felineæ*, with the wolf, and the bear; the plains re-echoed the shriek of the hyena and the jackal: the elephant and the rhinoceros shook the gloomy forest: the fierce boar, prompt for war, ravaged the newly-planted gardens

and vineyards; fierce and powerful baboons, cunning as cruel, dwelt in the caves and recesses of the woods; and animals of the herbivorous class, yet hardly less bold and savage than the lords of the carnivorous tribes, the nyghau, the wild bull, the buffalo, the urus, and the bison—were ready to use their gigantic strength in instant assault upon any foe, bestial or human, that might dare to invade their domain.

To meet these sylvan possessors of the earth, and either to destroy them or to expel them from the vicinity of cultivation and settlement, was thus absolutely necessary, and the successful hunter would be legitimately regarded as a benefactor of his race. Many qualities of mind and body would be brought into practice, and would be improved by the exercise, in this indispensable employment, which would impart to their possessor a halo of glory in the eyes of his fellows, and would lead the way for the assumption on the one hand, and for the concession on the other, of royal authority and power. Personal prowess and daring hardihood would prompt the youth to seek the lion or the buffalo; a knowledge of his enemy's haunts, and of his habits would be needful to guide him in the conflict; the powerful muscular frame, to sustain the shock of the assault; skill in the use of weapons, the practised eye, the ready hand, to direct the blow with precision and effect; agility to evade the forceful impetus of his brute foe; a mind fertile in resources and stratagems; promptitude to follow up an unexpected advantage; fortitude in danger; patience in suffering:—such are some of the qualifications which would be indispensable for one who in those early days, and in that region of the earth, was ambitious to claim the reputation of a "mighty hunter."

Hunting was thus only of less importance as an occupation than war itself. It was, indeed, considered by the ancients as a sort of war, and formed a fit preparatory education for that sterner conflict, in which the resources of man were engaged against those of his fellow-man.

The divine grant of flesh for human food, conferred for the first time upon man, in God's covenant with him after the deluge, would doubtless give a motive and a zest to the sport of hunting. Perhaps the rebellious race of Cain had eaten flesh before the flood, without waiting for the divine permission; but now that all restrictions were taken off, men, we may be sure, would not be slow to avail themselves of the newly-bestowed privilege. Without the resources of hunting, however, the permission would have been of little avail to them; for though flocks and herds were under man's dominion from the very earliest ages, and, as we firmly believe, were originally given to him in a state of domestication, yet these would be much too valuable in the infancy of the world, for the gratification of habitual appetite in this way. Accordingly, when Isaac wished for "savoury meat," though the event proved that a kid from his own flocks could be so dressed as not to be distinguishable from game, and though "he had great possession of flocks, and possession of herds" (Gen. xxvi. 14), yet he did not send to these for his meat, but commissioned his elder son to go forth to the field "to hunt for venison." And this was not an extraordinary case, for we learn that Isaac habitually "ate of his venison" (Gen. xxv. 28); and so valuable were the talents of the "cunning hunter," in thus supplying the family with animal food, which otherwise they would probably seldom have tasted, that Isaac's affections were peculiarly drawn out to him on this account.

The same feelings prevail in the East to this day. Very little animal food is eaten, and least of all by the pastoral wanderers, who have ample

flocks and herds. "The Oriental shepherds," observes Dr. Kitto, "seldom, except to entertain a stranger (see Gen. xviii. 7), think of diminishing their flocks to supply themselves with meat. They are as glad of any game that falls in their way, as if they had not a sheep or goat in their possession; and it was quite natural that such a 'cunning hunter' as Esau should rather be directed to go out into the fields and shoot game, than to go and fetch kids from the flock."*

If the various tribes of animals now existing in a state of domestic servitude, were not originally created in that state, as we believe they were, and given to man as an inestimable boon to lighten his penal toil, or to minister to his wants;—if in the early ages the horse, the ass, the bull, the goat, the sheep, the dog, were denizens of the woods and plains in native freedom, a condition of being which, as regards these races, has confessedly not been recognised within the reach of history or tradition, then the stratagems and the labours of the hunter would have another object not less important than those which we have noticed. The subjugation of the horse and of the bull from the wild liberty of nature, and the training of these fine animals to perform the various services that man required, laying their gigantic strength at his feet,—would surely be a nobler conquest, and would reflect upon the primitive heroes who

achieved it a greater honour, than the defeat of armies and the capture of cities. But this, we think, was no human achievement.

Jehovah's questions to Job appear to imply that the docility of domestic animals is a quality implanted in them by Himself; and that it is not given to man's endeavours to subjugate such as are naturally wild.

"Will the unicorn [the *Reem*, probably some ferocious animal of the

* Pict. Bible, i. p. 175.



LION HUNT.

bovine race,] be willing to serve thee, or abide by thy crib? Canst thou bind the unicorn with his band in the furrow? or will he harrow the valleys after thee? Wilt thou trust him, because his strength is great? or wilt thou leave thy labour to him? Wilt thou believe him, that he will bring home thy seed, and gather it into thy barn?" (Job xxxix. 9—12.)

But why not, if it was merely contingent upon human skill to subdue and to train the wild animals?

The early Assyrian kings, like the illustrious founder of their monarchy, were "mighty hunters," men who loved the chase, and who hesitated not to peril life and limb in single combat with the most savage and powerful denizens of the forest. In those days, the noble sport was pursued in a very different mode from that in which it was followed afterwards in the Persian "paradises," where the affrighted beasts were congregated into a narrow space, and shot by the monarch, or rather butchered, from some elevated post where no danger could approach his person. The early heroes, Ninus and Semiramis, had immortalized themselves by their personal exploits with the lion and the panther, which popular tradition delighted to repeat; and they and their successors had sought to perpetuate the memory of these glorious deeds, by sculpturing them on the marble walls of their palace courts, as not less worthy of remembrance than the scenes of martial conquest with which they were intermingled, or the congregation of tribute-bearers which symbolised a dominion extending from sea to sea.

Another kind of commemoration of the exploits of the "mighty hunter" was the exaltation of him to the skies; for the most striking and splendid constellation in the nocturnal heavens, Orion, with his starry belt and pendent sword, preceded by the hare, and followed by the dog (according to Chaldean astronomy), was considered to represent Nimrod.

HISTORY OF GUTTA PERCHA—(continued).

SINGAPORE and Borneo appear to be the only countries at present known from which gutta percha can be obtained in large quantities. The trunk of the gutta percha tree (*Isonandra gutta*) is straight and lofty, and about three feet in diameter at its base; its branches are numerous, having ascending terminal buds, which are white from exuding gutta; the timber is hard, and sometimes used for building and other purposes. The flowers and leaves are shown in the cut. The proper mode of obtaining the juice is to tap the trees periodically. Some young trees were planted in the conservatory of Kew Gardens, but from some unexplained cause the experiment was unsuccessful.

The natural order of plants to which it belongs, *Sapotaceæ*, consists of trees or shrubs which are chiefly natives of the tropics, and often abound in milky juice. The members of this family are chiefly remarkable for the fruit yielded by them, some kinds of which are held in high estimation. Some yield a thick oil like butter, and some have medicinal properties. But the existence of so remarkable and peculiar a substance as gutta percha in the milky juice appears not to have been noticed until the accidental discovery of the substance in the hands of a native first directed attention to the subject.

Some interesting facts appeared in one of the public prints in 1850, which deserve extraction here. Previous to 1844, it is observed, the very

name of gutta percha was unknown to European commerce. In that year, two cwt. of it were shipped experimentally from Singapore. The exportation of gutta percha from that port rose in 1845 to 169 piculs (the picul is 133½ lbs.), in 1846, to 5,364; in 1847, to 9,296; in the first seven months of 1848, to 6,768 piculs. In the first five years and a half of the trade 21,598 piculs of gutta percha, valued at 274,190 dollars, were shipped at Singapore, the whole of which was sent to England, with the exception of 15 piculs to Mauritius, 470 to the continent of Europe, and 922 to the United States.

But this rapid growth of the new trade conveys only a faint idea of the commotion it created among the native inhabitants of the Indian Archipelago. The jungles of the Johore were the scene of the earliest gatherings, and they were soon ransacked in every direction by parties of Malays and Chinese, while the indigenous population gave themselves up to the search with an unanimity and zeal only to be equalled by that which in the railway world agitated England about the same time. The Tamungong, with the usual policy of oriental governors, declared the precious gum a government monopoly. He appropriated the greater part of the profits, and still left the Malays enough to stimulate them to pursue their search, and to gain from one hundred to four hundred per cent. themselves on what they procured from the aborigines. The Tamungong, not satisfied with buying at his own price all that was collected by private enterprise, sent out numerous parties of from ten to one hundred persons, and employed whole tribes of hereditary serfs in the quest of gutta percha.

This organized body of gum-hunters spread itself over the whole of Johore, peninsular and insular. They crossed the frontier into Ligua, but there the Sultan was not long in discovering the new value that had been conferred on his jungles. He confiscated the greater part of what had been collected by the interlopers, and in emulation of the Tamungong declared gutta percha a royalty.

The knowledge of the article stirring the anxiety of the gatherers, they gradually spread from Singapore northward as far as Penang, southward along the east coast of Sumatra to Java, eastward to Borneo, where it was found at Brune, Sarawak and Pontianak on the west coast, and at Ket i and Pania on the east. The imports of gutta percha into Singapore from January 1 to July 12, 1848, according to their geographical distribution were:—from the Malay peninsula, 593 piculs; from the Johore archipelago, 1,269; from Sumatra, 1,066; from Batavia, 19; from Borneo, 55. The price at Singapore was originally 8 dollars per picul; it rose to 24, and fell about the middle of 1848 to 13.



THE GUTTA PERCHA PLANT.

In the course of three and a half years, 270,000 trees were felled in order to get at the gum.

It may be interesting to state the fact, that in all probability gutta percha, or some substance closely allied to it, was introduced into England long before our own time, becoming afterwards forgotten. In a catalogue of Tradescant's Museum (now the Ashmolean Museum at Oxford, but at its first institution, about two centuries ago, at South Lambeth), we have met with the following sentence. "The plyable mazer wood, being warmed in water, will work to any form." Such is the well-known and characteristic peculiarity of this substance. Being, however, simply a curiosity, and none dreaming of its practical application, it was soon neglected and afterwards forgotten.

The imports of gutta percha into Great Britain from Singapore are interesting, and illustrate the rapid and enormous development of the trade.

Years.							lbs.
1844	-	-	-	-	-	-	230
1845	-	-	-	-	-	-	22,000
1846	-	-	-	-	-	-	710,000
1847	-	-	-	-	-	-	1,200,000
1848	-	-	-	-	-	-	1,700,000

PROPERTIES OF GUTTA PERCHA.

Gutta percha is imported into England in a variety of forms, some of which are represented in the annexed engraving. It differs in its state as



CURIOUS BLOCKS OF GUTTA PERCHA.

raw material, very considerably, from the appearance it presents when manufactured. This is principally due to the existence of a vast amount of impurities in the raw material, chiefly consisting of vegetable fibre, pieces of bark, and earthy matters intermixed.

The appearance of a block of raw gutta percha is very similar to that of a piece of white or dirty yellow wood. It is hard, scarcely indented by the nail, and might be well mistaken for a log of wood from which the bark had been removed. The shape of these blocks varies, as do also their size and quality. A large number have the form of a thick cake, not unlike that of linseed after having undergone hydraulic pressure; but others wear a more grotesque aspect, as may be conceived from the figures



STONE IN BLOCK

represented in the cut in the preceding page. The forms of uncouth animals, of monstrous heads, of birds, of lizards, serpents, crocodiles, and such like, are occasionally found among the heaps of the raw material brought to this country. These represent either the idols of the native collectors, or are mere vagaries of their imagination. The soft and ductile nature of the material when newly collected, offers a great inducement to those who are disposed to give these curious forms to it.

Gutta percha is very extensively adulterated by the Malays. In collecting it, sufficient care does not appear to be taken, to prevent its becoming impregnated with chips of wood, bark, &c.; and thus unintentional impurities become mixed with it. But there are others of a more serious kind, which are unquestionably fraudulent. Not unfrequently, in the centre of an apparently excellent specimen of the material, a large stone is discovered, purposely introduced in order to add to its weight; and earth, clay, and wood, are found in different masses. Before the material can be employed, it is necessary to remove all these, and powerful and costly machinery is employed for that purpose. If the material were only collected with sufficient care and by honest persons, several steps in the manufacture might be dispensed with; and had not a simple method of removing these impurities and adulterations been discovered, gutta percha would have ceased to become an object of social or commercial value.



STONE IN BLOCK.

Some of the earliest specimens of gutta percha sent over to this country were placed in the hands of some good analytical chemists, who carefully investigated its chemical composition. Dr. MacLagan appears to have been the first to have analysed it, and the following is the substance of his observations. Gutta percha in its crude state differs in many particulars from common caoutchouc. It is of a pale yellowish, or rather dirty-white colour. It is nearly as hard as wood, though capable of being slightly indented by the nail. It is very tenacious and not at all elastic.

To determine whether or not this substance really was a variety of caoutchouc, it was submitted to the ordinary process of ultimate analysis, and the following composition per cent. was obtained:—

Carbon	-	-	-	86.36
Hydrogen	-	-	-	12.15
Residue	-	-	-	1.49
				<hr/>
				100.00

The residue was considered to be oxygen absorbed from the air during the process employed for purifying it, since the substance, while heating in the vapour bath, acquired a brown colour. The analysis of caoutchouc, according to Faraday, is:—

Carbon	-	-	-	78.2
Hydrogen	-	-	-	12.8
				<hr/>
				100.0

The results of the analysis of gutta percha appeared almost to lead to the conclusion, that it was in reality similar to caoutchouc, the two substances not being generically different.

In its general properties, it likewise shows a similarity to common

caoutchouc. It is soluble in coal naphtha, in caoutchouc oil, and in ether. It is insoluble in alcohol and in water, and floats upon the latter.

Its most remarkable and distinctive peculiarity is the effect of heat upon it. When placed in water at a temperature of 110° , no effect is produced upon it except that it receives the impression of the nail more readily; but when the temperature is raised to 145° or upwards, it gradually becomes so soft and pliant as to be capable of being moulded into any form, or of being rolled into long pieces or flat plates. When in the soft state it assumes all the properties of common India-rubber, but it does not retain these properties long. It now begins again to grow hard, and in a short time, varying according to the temperature and size of the piece operated upon, it regains all its original hardness and rigidity. A ball one inch in diameter was completely softened by boiling water in ten minutes, and regained its hardness entirely in less than half an hour. It appears capable of undergoing this alternate softening and hardening any number of times without change of quality.

It is also to a certain extent ductile. When soft, it is easily torn across, but when hard, it is very tenacious. A piece not an eighth of an inch in thickness, when cold, easily raised a weight of forty-two pounds, and only broke when half a hundredweight was attached to it.

OUR NATIVE SONGSTERS—continued.

THE WREN.



Who that notices birds has not a kindly thought for that sweet songster of the winter day, that familiar little bird, the common Wren, or Kitty Wren, or Jenny Wren* as it is often called? the *Troglodytes Europæus* of the ornithologist. Every country child gives it a welcome, as it hops

* The Wren is nearly four inches in length. Plumage reddish-brown, crossed by narrow bars of blackish; the ground-colour is paler on the under parts, fading to light buff on the breast and throat; beak brown; feet pale brown.

about the garden or beside the arbour, glad enough, when snows and frosts are come, to share the meal of the robin. Like the redbreast it is a privileged bird, and the legends are of great antiquity which describe it as peculiarly protected by the care of Him who made it. Grose remarks that it is held extremely unlucky to kill a cricket, a lady-bug, a swallow, martin, robin redbreast, or wren. It is supposed, he says, that any one killing them would infallibly break a bone, or meet with some misfortune during the year; but the old legend no longer prevails with respect to the insect favourites, with the exception of the cricket; and the redbreast and wren seem the only privileged birds of modern times.

It is remarkable that a bird thus shielded by tradition in one country, should be the object of cruel treatment in another, on the ground of ancient legend. In Ireland, however, a barbarous custom, of great antiquity, prevails in modern days, of hunting the wren on Christmas-day, though happily the usage is becoming less frequent than formerly. The peasants are accustomed at this season, just when the poor bird needs most the kindness of man, to chase it through the hedges, and to beat it to death with sticks. This they accomplish by means of two sticks, with one of which they strike the bushes, while the other is thrown at the wren. Mr. Thompson, in treating of the birds of Ireland, remarks that it was the boast of an old man, who died at Kerry, at the age of a hundred years, that he had hunted the wren for the last eighty years on a Christmas-day. On St. Stephen's-day the village children carry about an ivy-bush, decked with variously coloured ribbons, among which the slaughtered birds are exhibited. They go from house to house, collecting money, and singing the well-known and foolish song commencing thus,—

"The wren, the wren, the king of all birds,
St. Stephen's-day was cot in the furze,
Although he is little, his family's grate,
Put your hand in your pocket, and give us a thrate,
Sing holly, sing ivy, sing ivy, sing holly," &c. &c.

A little inoffensive bird like the wren seems ill to merit this traditionary hatred, but Aubrey, in his *Miscellanies*, relates the tale which is its supposed origin. After having mentioned the last battle in the North of Ireland, between the Protestants and Roman Catholics, in Glinsuly, in the county of Donegal, he says, "Near the same place a party of the Protestants had been surprised, sleeping, by the popish Irish, were it not for several wrens, that just wakened them, by dancing and pecking on the drums, as the enemy was approaching. For this reason the wild Irish mortally hate them to this day, and killing them whenever they can catch them, they teach their children to thrust them full of thorns; you'll see sometimes on holidays a whole parish running like madmen from hedge to hedge, a wren-hunting."

Sonnini records a cruel hunting of the wren common in some parts of France, at the latter end of December, but in that country a different tradition accounts for it.

But leaving superstitious practices, which are too often mingled up with the elements of cruelty, we must return to our bird, the smallest of all our singers save the gold-crest. Its song, short, sweet and lively as it is, loses nothing from the fact of being heard when none else save that of the robin is likely to arrest our step, as we hasten over the frosty ground. One could hardly believe that so loud a song issued from so small a throat; but the bird gives us full means of ascertaining that it does so, for it sits

perched on the top of a farm-yard stack, or on the bough of the hedgerow, or on the gooseberry bush, singing as merrily as if it were summer, and apparently well pleased to have a listener, as if it scarcely expected that we should come abroad in January to hear it. Nor can we mistake the wren for another bird, for its very smallness serves to identify it, and no sooner has it uttered one short stave, than it is away to another spot, making short, weak flights, or hopping about with drooping wings and raised tail, making a low chirring sound. If alarmed by our near or sudden approach, it winds its way most ingeniously through the hedges or bushes, and again we see it at a short distance a minute afterwards, flying off a little farther, and creeping away from us as a mouse might do. Though it does not come with the robin to peck its meal from the window-sill, or around the breakfast table, it ventures into the farm-yards and gardens for what it may chance to find, though doubtless in severe seasons many wrens die of hunger. Treat our little jenny-wren but gently, however, and do not alarm it by a rash footstep, and it will love your company, and flutter for some paces before you, as if it intended to show you the way, seeming all the time to mark you with a most inquisitive look, as if apparently not only observing your actions, but even scanning your physiognomy.

The wren builds early in spring, generally about March, placing its nest against the side of a tree, a hay-rick, the wall of a house, or some other sheltered spot; and it often shows much sagacity by making it to correspond in colour with the object near it; thus, when affixing it to a mossy-covered trunk, green is the predominant hue; while, when near the hay-rick, a large amount of dried grasses renders the nest of similar colour; and again, when sheltered by the ivy, the moss prevails. This ingenuity is not, however, universally practised by the wren, and, as Mr. Jennings has observed, something must depend on the ease or difficulty with which the materials can be procured. This writer remarks, that when the nest is made wholly of green moss, and he has seen many so made, it is much more neatly and exactly defined than when composed of any other material. Grey lichens and grasses are used in some cases by the wren, and the interior is lined either with hair or feathers, and contains about eight or ten eggs, though sometimes there are as many as eighteen. They are of a yellowish white, speckled with brown.

Many little acts of ingenuity in rendering the nest less obvious to the passer-by have been recorded by those who have noticed birds. Mr. Jesse tells us of one that he had in his possession, which, being built among some litter, thrown into the yard, so nearly resembled the surrounding objects, that it was only discovered by means of the bird flying out of it. He adds, some of the straws were so thick, that one wonders how so small a bird could have used them. Mr. Yarrell observes of this, that in such cases the wren was, in some measure, influenced by the proximity of materials; but several instances are recorded by naturalists, in which design is so marked, that we hardly know whether to call it instinct or reason.

"I was much pleased this day, June 14th," says Mr. Knapp, "by detecting the stratagems of a common wren to conceal its nest from observation. It had formed a hollow space in the thatch, on the inside of my cow-shed, in which it had placed its nest by the side of a rafter, and finished it with its usual neatness; but lest the orifice of its cell should engage attention, it had negligently hung a ragged piece of moss on the

straw-work, concealing the entrance, and apparently proceeding from the rafter; and so perfect was the deception, that I should not have noticed it, though tolerably observant of such things, had not the bird betrayed her secret, and darted out. Now from what operative cause did this stratagem proceed? Habit it was not; it seemed like an after-thought; danger was perceived, and the contrivance which a contemplative being would have provided, was resorted to."

Nor should we here forget the poet's testimony to a little contrivance of this sort, narrated by Wordsworth, in his poem called the Wren's Nest. A pair of these birds had placed their cozy dwelling in a green covert, made by the branches of a pollard oak :—

"But she who plann'd this mossy lodge,
Mistrusting her evasive skill,
Had to a primrose look'd for aid,
Her wishes to fulfil.

"High on the trunk's projecting bough,
And fix'd, an infant's span, above
The budding flowers, peep'd forth the nest,
The prettiest of the grove."

In later days, the poet wandered to the oak to show to some friends the nest placed so prettily there, when he could see it no longer, and believed that some rude hand had carried it away :—

"Just three days after, passing by
In clearer light, the moss-built cell
I saw, espied its shaded mouth,
And felt that all was well.

"The primrose for a veil had spread
The largest of her upright leaves ;
And thus for purposes benign
A simple flower deceives."

A very singular circumstance occurs respecting wrens' nests. Many are found in an incomplete state, and it would seem that, after having been begun, they were abandoned by the bird, which, on second thought, deemed that the site had been, in some way or other, ill chosen. These half-finished empty nests are often found in very conspicuous places, instead of being well planned for concealment.

As the old Irish song says of the wren, "Her family is grate." She has two broods in a season, and as many as sixteen young birds have been sometimes found in one nest. There must be much to do in feeding a family like this, for in common with all other nestlings, they are very voracious, and the wrens are not far fliers, and must therefore seek their food very near their home. The nest is large and deep, and some of the young brood must be placed at so great a distance from the aperture, that one would fancy they must be sorely inconvenienced for want of light and air. There, however, they thrive, and, as Graham says, are

"Fed in the dark, not one forgot."

It was doubtless because of this dome-like and gloomy dwelling, that the ancients termed the wren *Troglodytes*, or dwellers in caves.

The wren is a most valuable little bird in ridding plants of the numerous insects which infest them, and it may often be seen, with its tail raised, hunting every bud and leaf, and peering with its bright eyes into every crevice of the bough, chirring, and evidently enjoying its occupation.

Cabbages, peas, beans, lettuces, flower-stems, are all searched and cleared ; and when these resources fail, and the cold drives the wren nearer to the homes of man, it hops about the thatch of the barn or cottage, or by the side of the drains, or among the straw of the farm-yard, hunting up any dormant insects which lie hidden, to open to their summer life when sunshine is come.

A gentleman who watched a pair of wrens with a brood of little ones, found that they went from the nest, and returned with insects in their mouths, from forty to sixty times in an hour ; and in one particular hour, the birds carried food to their young seventy-one times. He considers that they worked thus twelve times a-day, and that, taking the medium of fifty times in an hour, they thus cleared from the plants at least six hundred insects in the course of the day. This calculation is made on the supposition that the two birds took only a single insect each time. But it is highly probable that they carried off more than one at every flight.

Notwithstanding that the wren is hardy, and seems to enjoy the clear bright days of winter, yet probably in extremely severe seasons many of the species die of cold and want. During this period, they seek shelter in holes of walls, and under the eaves of corn and hay-stacks. Mr. Selby found the dead bodies of several wrens in an old deserted nest, where they had probably assembled to crowd closely together, for the sake of warmth and shelter from the storm ; and a number of wrens rolled together, as in a ball, have been found in a hole of a wall, to which they had apparently come for the night. It is probable that many of our little birds may thus, during winter, keep close together, and so preserve the heat of themselves and each other. When kept in cages, wrens are generally supplied with a well-covered and lined box, in which they may pass the night.

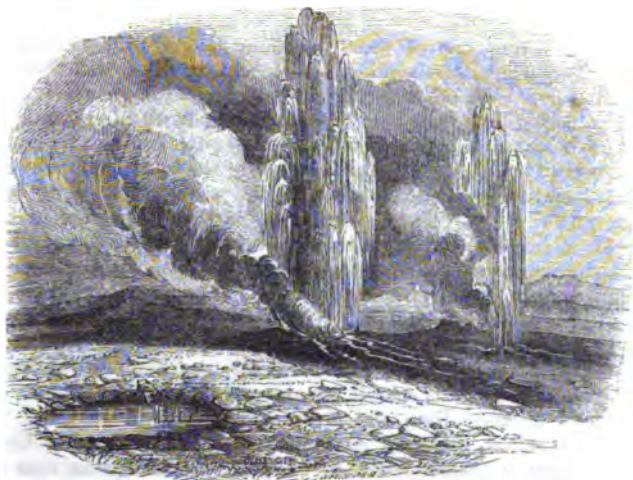
It is difficult to conjecture why the wren should, from the earliest ages, have been called the king of the birds, and this not merely by ancient writers, but by the peasantry of almost every land. Our little gold-crest seems fitted by his beautiful coronal to bear the name of Kinglet, the synonyme of which is so general ; but the wren is small and feeble, and has withal no robe of royalty, nor the crown of gold. The old writers tell that the eagle fought with the wren, as with a rival king ; and Colonel Vallancy, in his learned work on the Irish, terms the wren, the augur's favourite, and remarks that the Druids represented it as the king of birds. He adds, that the superstitious reverence formerly shown to this little creature, offended the early Christian missionaries, and that their displeasure on account of it originated the cruel practice before alluded to, of hunting and killing the bird on Christmas-day. Of old times, it was also called

"The little wrenne,
Our Lady's henne ;"

so that, somehow or other, the bird has, from remotest periods, been an object of superstition. Even to the present day, the Italians call it the Little king (*Reattino*), the King of the hedge (*Re di siepe*), or the King of the birds (*Re degli uccelli*). The Spaniards, too, term it the Kinglet ; and the Portuguese, the Bird-king. So also the French give it the name of *Roitelet*, or Little king, or of King-berry (*Roi-berry*), or of King of the cold (*Roi de froidure*). The Germans call it by the poetic names of Snow-king (*Schnee-König*), and Thorn-king (*Dorn-König*). The Dutch preserve still their old name of the wren (*Konije*, Little king), and the Welsh simply term it *Bren*, King. In some French provinces, the peasants call the wren by the no less unaccountable name of *Bauf de Dieu*.

The wren is a bird of solitary and retiring habits, and is very generally diffused throughout the British isles, and, indeed, through Europe, singing its humble song the winter through, in cold and cheerless scenes, amid the icicles on the trees, and even when the flakes of snow come slowly down like plumes, with which to invest the streams and woods and fields.

THE GEYSERS,
OR, BOILING SPRINGS OF ICELAND.



ICELAND is an island situated in the Northern Ocean, amid regions of ice and snow ; yet it gives abundant evidence of the volcanic fires which are slumbering beneath its surface. Among the remarkable features of this interesting island are its hot springs, which, in some places, throw up a column of water to the height of a hundred feet, accompanied by a tremendous noise. These springs abound in many parts of the coast, as well as in the interior of the island, and in some cases, the waters of the ocean are sensibly heated by their action. The most celebrated of these hot springs are the Geysers, situated in the north of the island, where, within the space of a few acres, more than fifty of them may be seen. Some emit hot water as clear as crystal ; others send out hot vapours and troubled waters.

The Great Geyser, which has attracted most attention, rises from a mound of flinty earth, deposited by the water to the height of about thirty feet, and extending about two hundred feet across. On the top of this mound is a basin sixty feet wide, and seven feet deep, in the centre of which is the pipe or opening through which the water rises. The basin and pipe are lined with the same flinty deposit, polished to great smoothness by the constant action of the water ; but on the outside of the basin the deposit forms beautiful groups of crystals greatly resembling cauliflower. Small eruptions of the Geyser take place every two or three hours, but the great eruption occurs only once in about thirty hours. This is preceded by a hollow rumbling sound, and many thundering explosions

which cause the ground to quiver violently. The water at the same time begins to boil more furiously: suddenly a vast body of water rises with a fluctuating motion to the height of eighty or ninety feet, accompanied by a thick pillar of vapour. From the principal column smaller veins jet out to a much greater height, while others stream in arches from the cloud of vapour. Much of the beauty of the column is concealed by the steam, but when this is blown aside by the wind, the water appears shooting upwards in innumerable rays, "spreading out at the top like a lofty pine, and descending in fine rain." The column often descends suddenly, as if its force were exhausted; but it again rises with renewed energy, accompanied by thunders rolling in the earth. The whole eruption continues about ten minutes.

The scene during one of these eruptions is said to be indescribably grand. "The whole surrounding atmosphere is filled with volumes of steam rolling over each other as they ascend, and through which columns of water, shivering into foam, are seen spreading in all directions. Much of the water is lost in vapour; but the greater part falls to the ground in heavy showers of spray. As the jets rise out of the basin, the water reflects the most beautiful colours; sometimes the purest and most brilliant blue; at others, a bright sea-green; but in the further ascent all distinction of colour is lost, and the jets, broken into a thousand parts, appear as white as snow. Some of them are forced upwards perpendicularly; but many are thrown out in beautiful curves. The eruption thus continues, changing its form at every instant, till the force which drives it from beneath is exhausted." The water then subsides through the pipe, and disappears, but immediately rises again, and fills the basin to the height of about four feet; and in this state it remains till the next eruption.

At a short distance from the Great Geyser, is situated the "New Geyser," also called, from its continual noise, the "Roaring Geyser." The natives call it *Strokr*, or the "Churn." This spring rises from a small mound four or five feet high, forming a border at the mouth of the tube which is five feet in diameter, and filled with water to within ten or fourteen feet of the surface. The eruption is thus described:—"A thick cloud of smoke suddenly burst forth, succeeded by a liquid column, which was almost immediately dissipated by the violence of the eruption into fine spray, and rose to an immense height. From time to time, jets shot upwards more than a hundred feet, and some largestones which had been thrown in were cast out with great violence, rising almost out of sight, several of which ascended so perpendicularly as to fall back into the basin, serving for balls to this gigantic jet. The water was soon exhausted, but the clouds of steam continued to escape with a whistling or hissing sound three quarters of an hour, when the eruption ceased, and the fluid remained boiling in the tube as usual."

Some of these natural fountains play for a much longer time than the Great Geyser, and also send their waters to a greater height. The body of water is not so great, but the force of the eruption is quite as remarkable. The flinty matter which these springs deposit, causes the eruptions to vary constantly in force and character, and in time destroys the spring by entirely choking up the tube from which the water rises. Immediately after an eruption, the water in the basin is near the boiling point, and lower down in the tube it is said to be forty degrees hotter than boiling water. These Geysers are supposed to be caused by the collection of heated vapours in large cavities of the earth, which at length acquire sufficient force to

expel the waters subject to their pressure. The word *Geyser* signifies in the Icelandic dialect "*fury*."

Thus amid the wildness and desolation of Icelandic scenery, the simple inhabitants have abundant opportunity of recognising in these magnificent fountains, and in the awful grandeur of volcanoes and volcanic remains, the constant presence and mighty power of their Creator.

GLACIER TABLES.



On the surface of glaciers may frequently be noticed enormous blocks or slabs of stone, perched upon stems of ice like huge mushrooms; sometimes entirely, and at other times partly, supported in the air. They are called *Glacier Tables*. One of them, described by Mr. Forbes, consisted of a flat block of granite measuring twenty-three feet by seventeen feet, and about three and a half feet in thickness. In the month of June 1842, it was easy to step upon this stone from the general surface of the glacier; but as the season advanced it changed its appearance remarkably. The waste of ice at the surface caused the glacier to sink all round the stone, while the ice immediately beneath it was protected from the sun and rain, as by an umbrella. The stone thus appeared to rise above the level of the glacier, supported on an elegant pedestal of beautifully veined ice. "Each time I visited it," says Mr. Forbes, "it was more difficult of ascent; and at last, on the 6th August, the pillar of ice was thirteen feet high, and the broad stone so delicately poised on the summit of it (which measured but a few feet in any direction), that it was almost impossible to guess on what it would ultimately fall, although, by the process of the thaw, its fall in the course of the summer was certain." On a still later day, when Mr. Forbes made a sketch of it, "it was," he says, "probably the most beauti-

ful object of the kind to be seen anywhere in Switzerland. The ice of the pedestal presented the beautiful lamellar structure parallel to the length of the glacier. During my absence in the end of August, it slipped from its support ; and in the month of September it was beginning to rise upon a new one, whilst the unmelted base of the first was still very visible upon the glacier."

Glacier tables are formed only of such thick blocks of stone as will prevent the heat of the sun from penetrating through. If the slabs are thin, and of a dark colour, a contrary effect is produced ; instead of rising they *sink*. The heat of the sun is absorbed so quickly, that it melts the ice beneath, and the stone soon disappears. A leaf wafted by the wind upon the glacier, a dead insect, or a few grains of black sand, will all sink ; while blocks of stone as large as a house, and weighing millions of pounds, are thrust up into the air.

The thawing of the ice also produces curious cones of sand, called *glacier cones*. They have been seen of so large a size as twenty or thirty feet in height, and eighty or a hundred in circumference. They are formed from the sand of the moraines, which, being washed by the surface water, rills into the deep cavities of the glacier, at length accumulates and chokes up the hole, and as the ice subsides, a pyramid or cone of sand is left standing.

The Glacier Tables, as well as the Glacier Cones, move down with the icy stream, and are in process of time deposited in the terminal moraine at the foot of the glacier. In the valley of Chamouny blocks of moraine lie scattered here and there, forming a wilderness of stones of all shapes and sizes, showing how far the ice had in former years extended. And long after quitting the region of the glacier, huge stones, precisely similar to those seen on and about the ice, are to be met with ; indeed, they are scattered over many parts of Europe, and are hence called *erratic* or *wandering* blocks : they are also called *boulders*. A great belt of these stones extends for miles, at a height of about eight hundred feet above the level of the lake of Neufchatel. One of these blocks, situated about two miles to the west of the town of Neufchatel, is called the *Pierre à Bot*, or the Toad-stone, from its rude resemblance to the form of a crouching toad. This stone is fifty feet long, twenty wide, and forty high, and contains about forty thousand cubic feet of solid material. It is of granite, similar to that of the Great St. Bernard ; from which part of the Alps it is supposed to have come, as there is no similar rock nearer at hand ; yet it shows no marks of attrition, all its angles being perfectly sharp. It was suggested many years ago by Professor Playfair, that these erratic blocks were deposited by ancient glaciers, which have since retreated within narrower limits. Speaking of the Toad-stone, he says, "A current of water, however powerful, could never have carried it up an acclivity, but would have deposited it in the first valley it came to, and would, in a much less distance, have rounded its angles, and given to it the shape so characteristic of stones subject to the action of water. A glacier, which fills up valleys in its course, and which conveys rocks on its surface free from attrition, is the only agent we now see capable of transporting them to such a distance, without destroying that sharpness of the angles so distinctive of these masses."

Another proof of the former existence of glaciers is to be found in polished rocks, which are seen many miles away from the site of any existing glacier. It has been already noticed, that the ice, in creeping on,

continually chafes and polishes the rocks over which it moves. The ice is constantly rubbing against its rocky walls or sides, and in time wears down the solid granite, and leaves the most decided proofs of its action.

CORAL-REEFS.

SOME parts of the ocean are studded with a peculiar kind of rock, very narrow, but stretched out to a considerable length. It is called a coral-reef, and is produced by innumerable small zoophytes popularly called coral-insects. The coral-insect consists of a little oblong bag of jelly closed at one end, but having the other extremity open, and surrounded by tentacles or feelers, usually six or eight in number, set like the rays of a star. Multitudes of these minute animals unite to form a common stony skeleton called coral, or madrepore, in the minute openings of which they live, protruding their mouths and tentacles when under water, but suddenly drawing them into their holes when danger approaches.

Reefs are of various forms. In some places they occur at a great distance from the land, and run nearly parallel with it: these are called barrier-reefs, and are often of enormous dimensions. Usually a snow-white line of great breakers, with here and there an islet crowned by cocoa-nut trees, separates a broad channel of smooth water from the waves of the open sea. In other places coral-reefs fringe the shore, and are separated from it by a narrow channel of moderate depth; these are called fringing or shore reefs.

But perhaps the most remarkable form of reef is that to which the term Lagoon Island has been applied. In this case the reef approaches the form of a circle; and, surrounding a part of the sea, produces a sheet of smooth water called a lagoon, or lake, within which are usually several smaller islands. From this circumstance the word island, as applied to the whole, has been objected to, and the term "atoll" substituted, which is the name given to these circular groups of coral-islets by the inhabitants of the Indian Ocean.

"Every one," says Mr. Darwin, "must be struck with astonishment when he first beholds one of these vast rings of coral-rock, often many leagues in diameter, here and there surmounted by a low verdant island with dazzling white shores, bathed on the outside by the foaming breakers of the ocean, and on the inside surrounding a calm expanse of water, which, from reflection, is of a bright but pale green colour. The naturalist will feel this astonishment more deeply after having examined the soft and almost gelatinous bodies of these apparently insignificant creatures, and when he knows that the solid reef increases only on the outer edge, which, day and night, is lashed by the breakers of an ocean never at rest."

These animals cannot exist at a greater depth in the sea than about ten fathoms, and as the coral-islands often rise with great steepness from a sea more than three hundred fathoms deep, it would seem that the solid rock has been gradually, and perhaps very slowly, sinking to a lower level, since the time when the little architects commenced their labours. Such being supposed to be the case, the formation of a reef has been thus explained. Let *a* represent the section of a rocky island; *b, b* the level of low-water; and *c* the reef of coral fringing the coast. After the lapse of time, during which it has been sinking, the water-level stands at *b, b*; the coral at *c* has died from the too great depth, but the animals have been working upwards upon the dead matter, so that living coral is still near the surface;

the superior vigour of the species inhabiting the seaward edge, however, has caused that edge to be more elevated than the interior, as at *d, d*; so that the appearance is now that of a rocky isle, diminished in extent, surrounded by a reef at some distance, separated by the shallow channel, *e, e* (which is exactly the appearance of Tahiti and the larger islands generally). The sinking still goes on, and after a while, the water *β, β*, is level with the summit of the island, which of course is now an island no longer; the



growth of the coral has kept pace with the depression, and it is still at the surface, as at *δ, δ*; the more slowly-growing species of the interior are still overflowed, and, as the island is still submerged in the centre, the water, *ε, ε*, is no longer a ring-shaped channel, but a round lagoon; and thus we have an atoll, as already noticed. The subsequent progress of elevating and clothing the new islet is a rapid one. "As soon as it has reached such a height that it remains almost dry at low-water at the time of ebb, the corals leave off building higher; sea-shells, fragments of coral, sea-hedgehog shells, and their broken-off prickles, are united by the burning sun, through the medium of the cementing calcareous sand, which has arisen from the pulverization of the above-mentioned shells, into one whole or solid stone, which strengthened by the continual throwing up of new materials, gradually increases in thickness, till it at last becomes so high that it is covered only during some seasons of the year by the spring-tides. The heat of the sun so penetrates the mass of stone when it is dry, that it splits in many places, and breaks off in flakes. These flakes, so separated, are raised one upon another by the waves at the time of high-water. The always active surf throws blocks of coral (frequently of a fathom in length, and three or four feet thick), and shells of marine animals, between and upon the foundation stones. After this, the calcareous sand lies undisturbed, and offers to the seeds of trees and plants, cast upon it by the waves, a soil upon which they rapidly grow, to overshadow its dazzling white surface. Entire trunks of trees, which are carried by the rivers from other countries and islands, find here, at length, a resting place after their long wanderings; with these come some smaller animals, such as lizards and insects, as the first inhabitants. Even before the trees form a wood, the real sea-birds nestle there; strayed land-birds take refuge in the bushes; and at a much later period when the work has been long since completed, man also appears, builds his hut on the fruitful soil formed by the corruption of the leaves of the trees, and calls himself lord and proprietor of this new creation."

NO MEANING IN IT.

THE tongue is the best member we have, and yet how few of us use it in reality for the purpose for which it was given—to the glory of God, and the good of our fellow-creatures! "It is set on fire of hell," saith the Apostle, and cuts sharper, we know, than a two-edged sword; but it is not

malice alone that causes it to offend, or to be injurious to others—the simple want of consideration alone, not unfrequently leads us to inflict wounds most painful to bear, and often fatal in their consequences.

Frank Markham was one of those thoughtless young men, who, loving to hear themselves talk, talk often for talking sake. By deed he would have injured no man; he was spoken of as a good-tempered fellow, not overburdened with brains, ready to do an act of kindness to any one, provided the opportunity presented itself, for it must be confessed he never went out of his way to seek it. He had, however, a defect, or, as it might be called, a habit, which rendered him a dangerous acquaintance, and lowered him in the estimation of all who were aware of it. Yielding without reason or reflection to the mere impulse of the moment, he would make remarks upon persons, assert opinions as those of others, or ascribe sentiments and even actions to individuals, for which he had no authority whatever. The habit was so well known, that though occasionally a friend might be startled at first at something related to him, the quarter from whence the information or charge proceeded was no sooner known, than surprise or anxiety ceased. "Frank Markham said so."—It was enough; the smile that followed showed how little either he or his words were regarded: while he himself, when the expressions he had used were repeated to him, almost invariably answered, "What nonsense! I had no meaning for what I said; who's to look at every word he says before he utters it, or can stop to weigh its force? there would be no such thing as conversation in the world. I had no wish to hurt any one, and never have; you know my way; and it is your fault if you make my ant-hills mountains."

It happened one day that Frank was travelling in a railway-carriage with an elderly gentleman, who was a total stranger to him, and another with whom he was partially acquainted as living in the same town with himself. The speed of Frank's tongue fully verified the quaint but correct assertion, that tongues generally, and his in particular, ran the faster for having no weight to carry. He had something to say to each of his fellow-travellers; he knew everybody, everything; knew to whom this estate belonged, to whom that—who inhabited one pretty house, who the other; nor were the proprietors themselves, according to him, strangers to him, or their private affairs a secret to him.

"You seem well acquainted with everyone in this neighbourhood," said the old gentleman at length, for, taciturn himself, he had at first seemed annoyed at Frank's loquacity. "From your general knowledge of these parts, and all connected with them, I suppose you are an inhabitant of D—y."

"I am," returned he; our family has lived there for generations (he forgot that his father and mother were natives of Macclesfield); from the most ragged-headed boy in Layton Lane to our respected member, Mr. —, I know men, women, and children."

"Of course then you know the family of the Montagues," said the stranger.

"To be sure I do, as well as possible," returned Frank. "Mr. Montague died suddenly of apoplexy, I was told;" then looking mysteriously, he added, "sudden deaths are always suspicious. There was a good deal said about it at the end, but with what foundation is another matter."

The stranger looked very grave, and for a short time was silent; then turning abruptly to Frank he said,

"Are you acquainted with Lawrence Montague?"

"Acquainted with him!" repeated he, "Lawrence and I have always been on the most intimate terms. I question whether I know myself better than I know him."

"What sort of a young man is he?" asked the other.

Frank laughed.

"I see you don't know him," replied he, "then I'll tell you. He's a rollicking, harum-scarum fellow as you please, when he likes."

"I thought he was a remarkable steady young man," said the stranger quickly, fixing his eyes almost sternly on Frank.

"And so he is in a general way," replied Frank; "but, as I told you before, he can be—"

"What?" demanded the other.

"As wild as the best of us," returned he, laughing; "up to anything and everything."

"You greatly surprise me," said the stranger, and his look, to Frank's delight, showed that he really was so. "And his mother—does she sanction such conduct?"

"I should not think that she troubles herself much about it," replied he. "She is wonderfully particular in some things, and as to her opinions on certain points, it is perfectly marvellous how prejudiced she is;—but she can be like other people after all. I have heard a good many people say they should not be surprised at her marrying again, and that at no very distant period."

"Marry again!" repeated the other, "you must be mistaken, sir."

"Oh no, I am not," said Frank; "it's no make-up of my own I assure you. I have heard it a dozen times. I'll tell you the name of the gentleman—if I—"

At that moment, however, the guard's voice proclaimed the station at which they had arrived. Frank and his townsman left the carriage, with an intent to take a cross train which was expected shortly. By way of passing away the time, they walked up and down the platform.

"I wonder who that old fellow is!" said Frank.

"Who? the person standing there?" returned the other, whose name was Osborne, pointing to a gentleman standing at a short distance from them.

"No, no," replied Frank; "the old fellow that was in the carriage with us: that man's face is summer and sunshine to look upon, the other's pretty much as sour as the north side of a crab-tree."

"I know nothing of him," returned he; "but I must own to you I am sorry that you said what you did about young Montague and his mother. You must excuse me, but I think you went a great deal further than you had any authority to go."

"Why, what did I say?" asked Frank.

"You said that Montague was a 'rollicking fellow,' replied he; "now let me ask what idea you intended to convey by that word?"

"What idea?" repeated he. "Pshaw! it's one matter to make use of a word, and another exactly to define it; there are few of us who would cut a good figure if we were to be brought to book in this manner. Rollicking, full of fun, mischievous, and all that; not vicious, though. To tell the truth, I saw the word for the first time in a tale I was reading the other day, and I was so pleased with it, that it popped into my head as a good opportunity to make use of it."

"A bad opportunity, I think," said Osborne, shaking his head. "At

least, unless I am greatly mistaken, the expression was ill applied in this case. I have always looked upon Lawrence Montague as a very steady young man ; and as to his mother, she is a most exemplary woman. I have not heard a word about her marrying again."

"Nonsense," cried Frank : "if the old fellow knows them, which I don't care whether he does or not, he will know that I had no meaning in what I said, and if he does not know them, what does it signify if I had said fifty times as much as I have? If you are to be bound to say just so much of a person, and no more, for fear you should say something more than is exactly correct, who is to live in society? I could not."

"The more the pity," replied Mr. Osborne ; "in this boasted age of general information and knowledge, one might think that conversation could be carried on without making our acquaintance the subject of it, or of using mere embellishments to our remarks, by the way of rendering them the more agreeable."

Frank did not feel quite so easy as he desired to appear, and he was glad to get rid of the discourse.

"Ay, well," said he, "it's done now, and there's an end of it. The old fellow has forgotten it all by this time, I dare say ; so, know them or not, no harm's done."

But Frank was mistaken, harm was done ; the stranger was an uncle of Mrs. Montague. Displeased at her marriage with her late husband, merely because he wished to have seen her united to a wealthy person of his own choosing, he had abstained from all intercourse with her for many years. By the death of Mr. Montague, she had been left in very indifferent circumstances, and anxiety for her son had led her, after many struggles, to make application to her uncle for assistance ; he was rich and unmarried, and her son's education was not complete. She wrote with all the eloquence of maternal feeling, and, judging by the tears her letter had cost her to indite, she thought it could scarcely fail to touch the heart of its reader. Nor was she mistaken ; her powerful and pathetic pleading shook the resolution of Mr. Shenley, and he yet wavered between a determination to maintain his obduracy and an inclination to become reconciled to his niece.

It was in this frame of mind that he encountered Frank Markham. The information he received from him, given, as it appeared to him, by one who could neither be mistaken in what he advanced, nor could have any motive to mislead another, at once provoked and decided him. Immediately on his return home, he wrote to Mrs. Montague, refusing her request, and couching his denial in severe terms. This was a heavy blow, and rendered the more so from the hope she had indulged of success. What was to be done? alas! there was no alternative ; she was obliged to accept the friendly offer made her by an acquaintance of her husband, to send out her son as a clerk in a merchant's office in Jamaica. Had Mr. Shenley relented, and afforded her the aid for which she sued, Lawrence would have been able to keep his last term at Cambridge, and the long-cherished desire of his heart, to take holy orders, would have been gratified. As it was, his prospects were blighted for ever. Mother and son parted, and parted too, to meet no more. Cholera was raging in the island when Lawrence landed, and he fell almost immediately a victim to the dreadful malady.

"What a savage that uncle of Mrs. Montague's was to refuse the assistance she asked of him, rolling in riches as he is, and neither chick nor child to claim a farthing from him!" cried Frank Markham to Mr. Osborne, who was speaking of the circumstance, which had soon got wind, and was

much commented upon. "Poor Lawrence's death may fairly be laid at his door. I wonder what excuse he could make for such barbarous conduct."

"It is said," replied the other, "that the old gentleman gave as his reason, when the subject was afterwards named to him, that he had been credibly informed the young man was not one who deserved to be encouraged. I was told that he even declared he was on his road to —, for the express purpose of seeing Mrs. Montague, and ascertaining what could really be done for Lawrence, when, hearing this disparaging character of him, he altered his intention, returned home, and wrote a denial as unkind as it was peremptory."

"What a shame!" cried Frank; "a double shame; a shame to him for being so ready to believe anything against the poor fellow; and a shame to the person who said it; he deserves, let him be who he will, —"

"Stop!" exclaimed Mr. Osborne, "do you remember travelling with an elderly gentleman some little time ago, when we were going to —? that gentleman was no other than Mr. Shenley; I have since seen him, and recognised him as our companion. If you have forgotten what then occurred, I have not. I told you, if you recollect, how sorry I was that you had spoken of Mrs. Montague and Lawrence as you had done, and I much regret that I suffered your words to pass unnoticed."

Frank coloured deeply.

"Impossible!" cried he, "any one might have seen that I had no meaning in what I said."

His heart throbbed, however, as he spoke, and he felt, as his countenance betrayed, much grieved and annoyed.

"You must excuse me," said the other, "when presuming on the privilege of an elder, I tell you, that you and every one, *ought* to have a meaning in what you say. No word, particularly when we speak of others, is unimportant; and to give a false impression of another's character, because we are careless of the terms we use in speaking of him, is a fault of no trifling description. The wise man employs his words as the experienced and skilful soldier employs his weapons,—for defence or lawful attack; the simple one plays with his words, as a child with a firebrand, causing the ruin of others, whilst simply diverting himself. Take this advice for the future: feel the value of your expressions before you utter them, and always be careful not only to convey a meaning to them, but such a meaning as will do justice to others, as well as credit to yourself."

THE CHRISTIAN TRAVELLER.

"A BLACK cloud makes the traveller mend his pace, and mind his home, whereas a fair day and a pleasant way wastes his time, and stealeth away his affections, in the prospect of the country. However others may think of it, yet I take it as a mercy that now and then some clouds do interpose my sun, and many times some troubles do eclipse my comforts. For I perceive if I should find too much friendship in my inn in my pilgrimage, I should soon forget my father's house and my pilgrimage."—LUCAS.

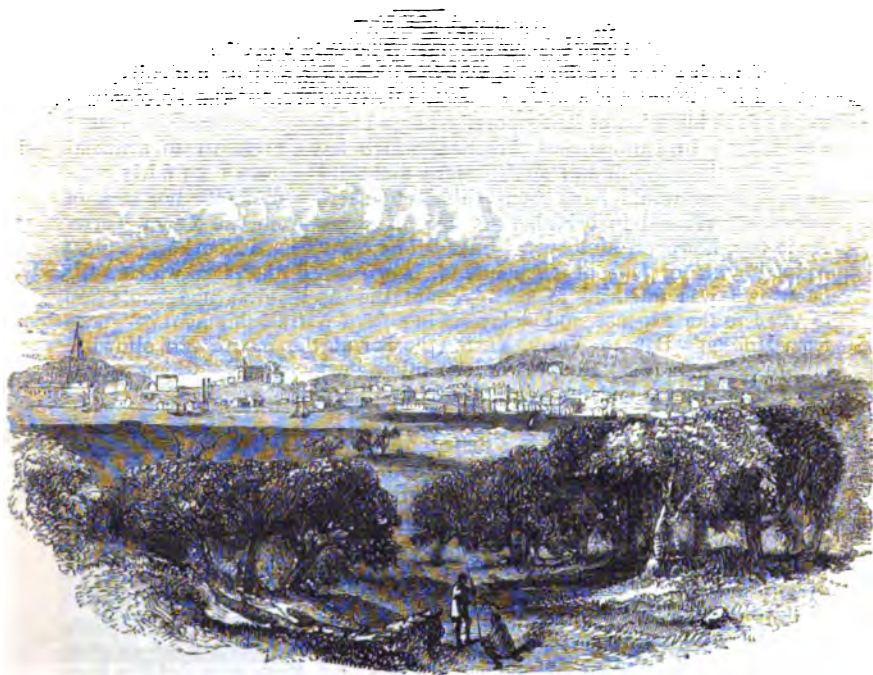
He that rises first to prayer, has a more early title to a blessing; but he that changes night into day, labour into idleness, watchfulness to sleep, changes his hopes of blessing into a dream.

THE
HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

PUBLISHED EVERY WEDNESDAY,
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A VISIT TO AUSTRALIA AND ITS GOLD REGIONS—No. V.



MELBOURNE.

PORT PHILLIP BAY is one of the most magnificent harbours in the world, and would afford safe anchorage for the whole mercantile navy of England. The width of the entrance at the Heads of Port Phillip is about two miles; and the entrance passed, the shores recede away on either side so as to give it an immense width. About half-way up, it throws out an arm to the westward, which is about ten miles wide at the mouth, and which, as we

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have said, has been denominated "the second Bay of Naples." This arm or inlet is the Bay of Geelong; and the extreme width of the Port Phillip Bay at this point, from east to west, cannot be less than about forty miles. The land again begins to trend in from this point as we proceed northerly; and towards the extremity of the harbour, a peninsula runs out into the gulf to the western shore, to the northward of which is Hobson's Bay, where we may notice a fleet of vessels of all sizes lying quietly at anchor, and shipping their cargoes of that important staple of the district, wool. Into a narrow prolongation of Hobson's Bay, and at a distance from the Heads of about forty miles, the Yarra Yarra river discharges its ever-flowing waters.

On the peninsula above mentioned, to the south of Hobson's Bay, is built the township of Williamstown, which was originally intended (by Sir Richard Bourke) as the capital of the colony. It was by no means an unwise selection, although circumstances conspired to prevent this township from obtaining that dignity. It is close to the shipping, from which Melbourne is distant seven or eight miles by water, although not so much by land. The extent of the site is amply sufficient for a large city, and it is surrounded by water on three sides; and the situation would unquestionably have been as salubrious as commanding. The only objection to it was the want of fresh water on the spot, which, although a serious difficulty, was not one of so fatal a character as should have prevented the accomplishment of the intention of its founder. There are many large and important towns, both in Europe and America, which have to resort to artificial means for their supplies of fresh water; and had the town been fairly established, there would have been neither engineering difficulty nor lack of means experienced in bringing an efficient supply from the Yarra Yarra. As it was, however, Melbourne, intended by Sir Richard Bourke as a mere country village some distance inland, has usurped the place which Williamstown was intended to occupy, and the Melbourne merchants are exposed to the expense and delay arising from a transshipment of goods from Hobson's Bay to Yarra Yarra (the bar at the mouth not allowing large vessels to pass), and to various other inconveniences which would have been avoided had the original intention been accomplished.

The city of Melbourne, the present capital of the colony of Victoria, and the seat of a bishopric, is situated on the banks of the Yarra Yarra. It has a municipal charter, its local affairs being directed by a mayor, four aldermen, and twelve town councillors. Its principal streets are a hundred feet in width, and are mostly at right angles with each other; although, to the disgrace of the surveyors, there are a large number of narrow lanes, while squares, circles, and other ornamental open spaces, which add so greatly to the healthiness as well as beauty of a city, have been almost entirely forgotten. There are churches, banks, and government buildings, of an ornamental character, and the shops and warehouses are not inferior to any in the Australian metropolis. In last year, there were not less than nine new places of worship in course of erection. There is a Mechanics' Institution and a Theatre; and among the commercial buildings there are two steam-mills, seven breweries, one boiling-down establishment, one blacking manufactory, three iron and two brass foundries. At a late sale in Swanston-street, the prices of land ranged from 6*l.* 10*s.* to 20*l.* per foot frontage; and as the price was not a mere speculative one, it serves to indicate in the strongest manner the rapid progress of the city. In the suburbs there is a botanic garden and a race-course; and connecting the

city with South Melbourne there is a magnificent stone bridge, called Prince's bridge, having but a single arch of one hundred and fifty feet span, erected at a cost of 15,000*l*.

To describe the appearance of this flourishing city by mere words would be impossible, and the pencil has therefore been called in requisition here to aid the pen in conveying some idea of the aspect of the city of Melbourne.

There are four daily newspapers published in the city, and two weekly papers; and the following summary of the wealth and population of the colony is from the census taken last year:—

POPULATION FOR 1851.					
Melbourne	-	-	-	-	23,143
County Bourke	-	-	-	-	18,348
					<hr/> 41,491
Geelong	-	-	-	-	8,227
Country Grant	-	-	-	-	4,669
					<hr/> 12,896
Estimated total of the remainder of the province	-	-	-	-	21,813
					<hr/> 76,200
<hr/>					
LAND.					
Land sold	-	-	-	-	£710,000
Improvements, at 100 per cent.	-	-	-	-	710,000
9,000 tenements, at 250 <i>l</i> .	-	-	-	-	2,200,000
					<hr/> £3,620,000
<hr/>					
STOCK, 1850.					
Sheep, 5,318,046, at 10 <i>s</i> .	-	-	-	-	£2,659,023
Cattle, 346,562, at 20 <i>s</i> .	-	-	-	-	346,562
Horses, 16,743, at 60 <i>s</i> .	-	-	-	-	50,229
1,200 stations, chattels, &c. &c. at 200 <i>l</i> .	-	-	-	-	240,000
					<hr/> 3,295,814
Increase of stock since 1850	-	-	-	-	306,870
					<hr/> £3,602,684
					<hr/>

The situation of the city of Melbourne is decidedly good; and the beautiful green appearance of the hills on which it is built, with a picturesque and never-failing river flowing in front of them, must have appeared peculiarly attractive to the first settlers from Van Diemen's Land. The country around the town is rather of a light soil, and thinly wooded; but the wood is generally of that umbrageous and ornamental character which reminds one of the park scenery of the mother-country, and is altogether unlike the tall, naked stems that shoot up their uninteresting forms in the thick forests around Sydney. But the principal source of attraction near Melbourne is the Yarra Yarra river, whose banks are studded with picturesque and beautiful villas for miles and miles above the town. The name of the river signifies, in the aboriginal language, "ever-flowing," and it justly deserves the title, inasmuch as its current of fresh water has never been known to fail. It displays to us the characteristics of an Australian river in its abrupt banks, more resembling those of a canal constructed by

the hand of art than one of those streams of similar size in the home country, which nature has furnished with beautiful pebbly shelving banks. Its source is in one of the spurs of the Snowy Mountains. Its ordinary depth for a considerable distance above Melbourne is eight or ten feet, and it is from two to two and a half chains in breadth. Occasionally, in parts of its upper course, its bed is traversed by a ridge of sandstone or other soft rock; and, as it approaches the vicinity of Melbourne and its estuary, by dykes of trap or iron-stone, the most elevated and striking of which occur at the head of the basin at Melbourne. At this point, in ordinary times of the tide, the fresh water mingles with that of the bay, which is about eight miles distant.

Below the point where the river Plenty enters the Yarra, the high banks of the latter are found to border occasional flats, or low undulating grounds, of various extent, composed of very rich alluvial soil; in the other portions of its course from the above point, the river will be seen to be confined within its deep bed at the foot of steep sandstone hills, or somewhat elevated flats of honeycomb land, sprinkled with trap boulders. The valley of the Yarra so called may be said to terminate at Melbourne. At this point the bluff land retires on either hand, and gives place to a wide tract of country, composed partly of low marsh, but very slightly raised above the level of the high tides, and partly of low, undulating, sandy rises, through which the Yarra and Salt Water river take their course to their junction with the sea. From the whole of this level the sea has doubtless retired, leaving the original coast line exceedingly well defined in the steep, scarped banks which bound the low land for many miles.

At the distance of four miles from Melbourne in a direct line, although perhaps more than twice that distance by the windings of the river, the Yarra receives as a tributary from the northward the Nierri creek; at four or five miles further, it receives the Darabin creek; and at six miles beyond the latter stream, the river Plenty. These are all mountain streams, or rather torrents, that rise in the Mount Macedon range, and pursue a southerly course till they fall into the Yarra Yarra. There is a large quantity of excellent land on the banks of these tributaries, although in general it is well wooded, and rather thickly covered with rocks, evidently of volcanic origin, which have been carried down by torrents from the extinct volcanoes of that part of the territory. The soil is a rich black mould, and is excellently adapted for the growth of the vine, and of all descriptions of European fruit trees.

The country around Melbourne is designated the district of Bourke, which is bounded to the westward by the Weiraby river, which rises in the Buninyong range of mountains, and falls into Port Phillip Bay near the opening to the Bay of Geelong; and to the eastward, the district extends towards Western Port by the Dandenong range; including, therefore, the Mount Macedon country to the north of Melbourne, at a distance of from thirty to forty miles.

A considerable portion of the road to Mount Macedon traverses what are called sheep downs, a comparatively level tract of country, but gently undulating, the soil being light and dry, and producing excellent pasture for sheep. Towards Mount Macedon the trees become more numerous, although over the downs they are but thinly scattered. These trees are generally a variety of *casuarinæ*, commonly called she-oak by the colonists, which genus of tree is most abundantly found over the whole district. They are not found growing in thick and dense forests or natural planta-

tions, but scattered thinly, either singly or in clumps, giving to the land the beautiful appearance of an English park, except as to extent, which in many places would far exceed the limits of an English county. The leaves of this tree are shaped somewhat similar to a packing needle; and when the wind sighs softly through their foliage, they produce a kind of melancholy sound, giving the idea of the rolling of the surf on a distant beach, sometimes so vividly as to induce the traveller, when far inland, to glance round the horizon in the expectation of finding the waters of the ocean within his view; and occasionally this dull sound will be varied, from the strength of the wind, so as to produce as it were all kinds of beautiful tones, and induce us to feel that we are indeed walking amidst a grove of nature's own Æolian harps.

A more picturesque and beautiful region than that near Mount Macedon can scarcely be conceived. The whole country has a delicately-smooth, lawn-like surface, without scrub or stones, studded with small groups of these she-oaks, with their rich brown silky foliage: further off, bounding the plain, there are knolls, slopes, and glens, all of the smoothest outline, crowned or sprinkled with the same trees; and, beyond, mountains and mountain ranges, tinged with the delicious blue of the summer heavens. Some of these mountains are wooded to the summits; others reveal through their openings immeasurable plains, with myriads of sheep whitely dotting the landscape, or herds of stately cattle browsing on the richest pastures in the world; whilst glimpses of golden sunshine, lighting up the features of the landscape, and casting long shadows from the trees under which the flocks cluster occasionally for shelter from the rays, render the scene one of the most ravishing enchantment.

THE FOOL'S REPROOF.

THERE was a certain nobleman (says Bishop Hall) who kept a fool, and had given a charge to him to keep a certain staff till he should meet with a greater fool than himself. Not many years after, the nobleman fell sick, even unto death. The fool came to see him. His sick lord said to him:—

"I must shortly leave you."

"And whither are you going?" said the fool.

"To another world."

"And when will you come back again? within a month?"

"No."

"Within a year?"

"No."

"When then?"

"Never."

"Never!" said the fool. "What provision hast thou made for thy entertainment there, whither thou goest?"

"None at all."

"No!" said the fool; "none at all? Here, then, take my staff, for with all my folly, I am not guilty of folly like this."

THE VILLAGE FUNERAL.

THE bells are tolling with a dreamy chime
That melts and mingles with the air around,
Mourning for her who died in vernal prime,
Queen of the village by her virtues crown'd.

Last week she bounded, full of girlish life,
Fleet o'er the turf, elastic as the breeze,
Radiant as morn, with bloom and beauty rife,
Fresh as the wave which gambols on the seas :

But Christ recall'd her for His home on high,
To harp in glory God's incarnate love,
Ere guilt had waken'd one remorseful sigh,
Or earth untuned her for a heaven above.

Oh ! gently lay her where the yew-trees wave
Their verdant darkness o'er some grassy tomb,
Where sunbeams learn the language of the grave,
Tinging their brightness with a temper'd gloom.

There shall the daisy rear its infant head,
And fairy wild-flowers drink the dew of spring,
While o'er the turf that greenly wraps the dead
Autumnal winds their plaintive descant sing.

'Tis the same spot her rosy girlhood sought
Where fresh from school, with bright companions gay,
In maiden fancy, free from troubling thought,
She work'd her sampler, or retired to play.

Dear is the quiet village church to me,
Saxon, and simple, touch'd with tender glooms ;
Lifting its widow'd form so gracefully,
As though 'twere conscious of encircling tombs.

Whatever shade expressive clouds can throw,
Or, hills wood-crested may around it cast,
I love to view it in the vale below
Connect the present with our storied past.

Oft have I paused, when hull'd by pensive bliss,
To hear the curfew, mellow'd on the wind,
Waft the farewell of day to scene like this,
Soft to the ear, as soothing to the mind.

But, far excelling all chaste morn bestows,
The hush of twilight, or the harvest-moon,
Or, what mere landscape to the minstrel shows
When silent thoughts their sanctity attune,

Is felt,—when village funeral winds its train
Slowly and sadly to some churchyard gate,
And our deep service tones its heaven-born strain,
To scatter darkness from bereavement's fate.

Hark ! from the woodland floats the forward breeze,
 A low sweet dirge, the village-maidens sing,
 Whose white robes glisten through the waving trees
 As on the dead to her last home they bring.

Nay, sob not, mother ! for thy beauteous child,
 Though like a tendril from thy heart it grew ;
 Eternity she felt, ere time defiled
 Or made her soul untender and untrue.

And thou, hoar'd grandame ! with thy grief-worn face,
 Oft did the prattler on thy knee recline,
 And hold up features fancy loved to trace,
 Which matrons told thee, in thy youth, were thine ;

I see thee now, with tott'ring step advance,
 Wan are thy cheeks, and drops of aged woe
 Bedew thy visage, and bedim thy glance
 As onward to the grave the mourners go.

But ONE is present, whom no eye can see,
 Except by faith, and that is, Christ the Lord !
 And " Weep not," childless mother, comes to thee,
 If thy heart open to His gracious word.

Thou blessed Ritual ! throbs of Jesu's heart
 Still in thy tones of thrilling mercy live ;
 When yawns the tomb, most wonderful thou art,
 By echoing all God's inspirations give.

The " Resurrection and the Life " is near,
 By Spirit present, and in love as deep
 As when he touch'd the young man's open bier,
 And gently bid wild anguish, not to " weep."

As o'er that grave the " dust to dust " awakes
 A dismal echo in the bleeding soul,
 How the damp earth-clo'd on the coffin breaks,
 Till the deep tides of inward anguish roll !

Yet, o'er the tomb heaven's canopy unfolds,
 And, hark, these words of soothing magic sound,
 While Grief looks upward, and by faith beholds
 The Lord of life and resurrection crown'd,—

"Blest are the dead, who in the Lord depart :
 Yea, saith the Spirit, for their pangs are o'er ;
 Serene as heaven Christ keeps the sainted Heart,
 Whose works are ended, and who weeps no more."

MONTGOMERY'S ' *Christian Life*.'

OUR NATIVE SONGSTERS.



SEdge WARBLER.

THE song of the Sedge Warbler* (*Salicariaphragmitis*) may be heard by day or night. This is a decidedly aquatic species, and is very abundant on the sides of rivers, or on marshy or boggy land, in every part of our island. There it hides under the covert of the reeds, or among the sharp sword-like leaves of the flowering rush; or it settles on the willow bough or on the hawthorn, which, at a short distance, is covered with its pearly clusters of blossoms. It is fond, however, of burying itself among the rushes, and is thus oftener heard than seen. One can hardly praise the song as a very sweet one. It is a shrill rapid succession of notes, and is seldom heard from one bird only, for these social creatures are wont to sing in chorus: yet it is a strange wild strain, and in these quiet places has a charm, arising rather from its singularity and pleasant associations, than from its melody. The sedge bird is considered a sort of mocking bird, as it seems sometimes, though in a rapid and confused manner, to be occupied in imitating the song of the skylark, the chirp of the sparrow or the goldfinch, and the twitter of the swallow; sometimes introducing, in the midst of these apparent imitations, a deep harsh note, which though faintly resembling the chirr of the whitethroat, yet truly belongs to no bird save our sedge warbler.

Professor Rennie, though acknowledging some similarity in the notes of this bird's song to those which are supposed to be imitated, considers that they are, notwithstanding, the natural tones of the singer. He remarks: "From the sedge-bird frequenting the solitary banks of reedy streams and ditches, it can have few opportunities of hearing the notes of the chimney

* The Sedge Warbler is four inches and three-quarters in length. Upper parts reddish-brown, clouded and streaked with darker; wing quills and tail dark brown; head streaked with blackish, and marked over each eye with a cream-coloured band; throat white, becoming buff on the breast and belly; beak and feet pale brown.

swallow, and much less of the house sparrow, even were it disposed to learn them. And among some hundreds of these birds which we have listened to, in the most varied situations in the three kingdoms, all seemed to have very nearly the same notes, repeated in the same order, a fact which appears to us to be fatal to the inference of the notes being derived not from one, but from a number of other birds. For if this were so, it is not possible that these imitated notes should all follow in exactly the same order in the song of each individual imitation, in different and distant parts of the country. The close similarity of the notes to those alleged to be imitated, cannot indeed be denied; but taking all the circumstances into account, we think it much more probable that these resembling notes are original to the sedge bird, and that we might with equal justice accuse the swallow and the skylark of borrowing from it."

White calls this bird the delicate Polyglot, yet its best notes are not to be compared for sweetness to that American bird which Southey describes—

"That cheerful one who knoweth all
The songs of all the winged choristers;
And in one sequence of melodious sounds
Pours all their music."

It is a merry bird, however, singing all day long, and easily urged into song, if, when it chance to be silent, a stone is thrown at it. Away it glides then into some deeper recess among the water plants, and commencing its rapid strain seems to bid a cheerful defiance to fear and danger; then it gives the whit, whit, whit, of the swallow, or the twink, twink, of the chaffinch, to perfection; or suddenly utters the chur-r-r, chur-r-r, which is its own sound, if any danger is apprehended to its nest from an approaching footstep. Its singing is very singular as it sounds forth from the reedy waters late at night, when hundreds of voices seem sometimes joining in concert, and the traveller at that lone hour listens with wonder and pleasure to the strange tones.

The sedge bird builds its nest at the base of some thick clump of sedges, or other plants, which surround the pool. It is formed of grasses and coarse bents, thickly lined with hair, and the eggs are of a pale yellowish-brown colour, with darker streaks of the same hue. Early in May, great numbers of these nests lie concealed among the sedges which grow around the borders of the Thames.

This bird is but a summer visitor to our land, coming hither in April, and staying till October; and its companion among the sedges, the Reed Warbler,* or Reed Wren (*Salicaria arundinacea*), arrives at about the same season, though it usually departs earlier in the year. Though it wears a sober suit, this bird, too, is a gladsome creature, and, like its congener, lives on the food to be found in and near the waters, feasting on the little worms and slugs which lie among the leaves, or seizing the fresh-water shell-fish when it comes to breathe the air of the surface, easily disposing of the shelly house, by breaking the fragile tenement with its beak. Nor do our birds hesitate to arrest the brilliant dragon-fly which soars around the stream, or to stop suddenly the singing of the gnat, which is dancing there in intricate mazes. The reedlings seem to live in perfect

* The Reed Warbler is five inches and a half in length. Upper parts pale reddish-brown without spots; chin and throat white; breast and belly pale buff; beak and feet pale brown.

harmony with the sedge birds, and sing and build among the rushes with them. The reed warbler, however, differs from them in this, that it never flits away to a neighbouring bough to sing, but confines itself closely to the reedy shore. The song is more sweet and varied than that of the sedge warbler, and though hurried, and sometimes apparently imitative of other birds, yet it is not intermingled with many harsh notes. It may be heard chiefly at morning or evening twilight. At times it resembles the words "tran, tran, tran," repeated a dozen or fifteen times in succession. And it is so loud that it may be heard far away from the stream side.



REED WARBLER.

The nest of the reed warbler is very beautiful. It is a long, deep structure, and is hung upon the reeds, or rather intermixed among them; three reeds serving as poles for its support. It is formed of branches of reeds and long grass wound round and round, and mingled with a good quantity of wool. The depth of the nest affords security both to the eggs and nestlings, so that though the wind may shake the reeds ever so much, they are not thrown out, nor does the mother bird seem alarmed when some sweeping gust rushes among them, and bows both her home and herself nearly to the surface of the water. She knows that the long strips of grass which bind the nest to the reed-stalk are fixed securely, and that that beautiful plume-like reed will bend and rise again unbroken by the wind. On some rare occasions indeed, when long-continued rains have swollen the stream beyond its usual boundaries, the nest will be submerged, but it is generally placed with so prudential a skill, as that many, like the peasants of Lorraine, judge of the height to which the water will arrive, by the elevation of the nests of the reedlings. The mother-bird is not easily alarmed, and Colonel Montagu saw a reed warbler retaining her seat on the nest, when every gust bent it almost to the surface of the stream. Both this bird and the sedge warbler are very common in Holland, where the sedgy dikes afford them a good retreat. In our country the latter species is more numerous than the former.

The eggs of the reedling wren are greenish-white, spotted with olive and brown. Happily the bird is not relished as food, neither will it bear con-

finement, so that it is permitted to sing its song in the wild and pleasant scenes of nature.



GRASSHOPPER WARBLER.

THE Grasshopper Warbler,* or Grasshopper Lark (*Salicaria locustella*), is not, like our sedge birds, an aquatic species, but, haunting the brambles and underwood of low damp situations, it is sometimes found not far from their abodes, though by no means confined to moist lands. This species is also called Cricket-bird, Brakehopper, Grasshopper, Chirper, and also Rattlesnake bird. All these names refer to the peculiar sounds of its notes, which resemble sometimes the cry of the mole-cricket, and at others the rattle of the formidable reptile of hotter regions; though, as Mr. Blyth has remarked, it is difficult to imagine how the latter should be sufficiently well known in England to give rise to a provincial name. One would think, from the variety of its country appellations, that this was a familiar and frequent bird; yet it is not so, for it is not only very local in its haunts, but so shy in its habits that it is rarely seen. It secretes itself in hedge-bottoms, winding its way among the interlacing stems of the brambles, or the thick tufts of the furze branches of the common; creeping for several yards in succession, more like a mouse than a bird, so that one can rarely get a sight of the little creature, whose sharp shrill notes are, however, echoed far and wide. When Mr. Selby wished to obtain specimens, he was obliged to watch for a considerable time before he could get a sufficient view of a bird to enable him to fire at it. If approached unawares, it runs alone over the ground, perking up its tail in the most curious manner.

Many, however, who have never seen the grasshopper warbler, have heard its remarkable note, particularly about sunset, and even in the night. It is a long, repeated, shrill, hissing cry, repeated without intermission, for some minutes together. The bird is most inaptly termed a warbler, for it certainly never warbles at all; but the peculiarity of its singing is, that it possesses a kind of ventriloquising faculty, so that its voice scarcely ever

* The Grasshopper Warbler is five inches and a half in length. Upper parts greenish-brown, clouded (except on the tail) with blackish spots; under parts pale brown, spotted on the breast with darker brown. The tips of the tail-feathers are pointed.

seems to proceed from the true direction. It can, at will, send forth its tones to the distance of two or three yards, so that by merely turning round its head, the sound often appears to be shifted to double that distance. Mr. Blyth remarks, "The same effect is produced also by the common meadow-crake, and in precisely the same manner, by a mere turn of the head. When this curious cricket-bird first arrives, it sedulously hides itself," he adds, "in the very densest furze or bramble coverts, rarely emitting its strange sibilous rattle, which hardly ever seems to proceed from the true spot."

The male birds, as with some other migratory species, arrive first, and as soon as they have fixed their abode, and their companions begin to follow, the ventriloquising note ceases, lest it should serve only to mislead; and at this time the male bird sits on the topmost twig of the bushes, and rattles so loudly as to be heard at a great distance. "They are at this period so bold, as that if even shot at and missed, they fly only two or three yards, and then recommence immediately as if nothing had happened." This accurate observer remarks, that for two successive years he had heard the trill on the 10th of April for the first time in the season.

The grasshopper bird is thus noticed by White, of Selborne:—"Nothing can be more amusing than the whisper of this little bird, which seems to be close by, though at a hundred yards' distance, and when close at your ear is scarcely any louder than when a great way off. Had I not been a little acquainted with insects, and known that the grasshopper kind is not yet hatched, I should have hardly believed but that it had been a locusta whispering in the bushes. The country people laugh when you tell them it is the note of a bird."

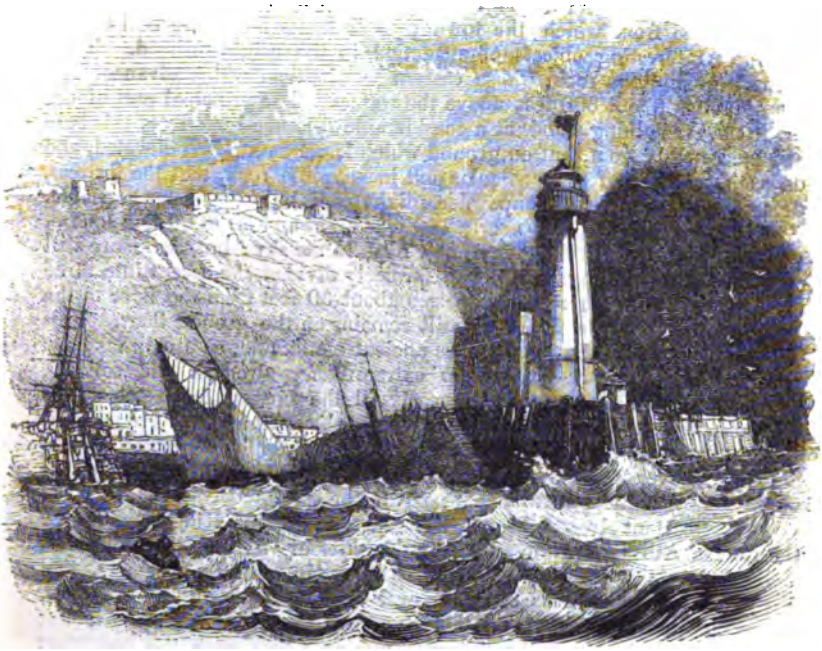
The greenish and brownish shades of the plumage are well adapted to the bird's desire of concealment. It builds its nest in the very thickest and most secluded spot of the underwood, making it very compact and substantial, and taking for its materials the dried grass stems and the green moss. The eggs are very pretty, being of a pinkish grey, speckled with a deeper tint.

Our bird comes to us from the warmer regions of the South in April, and quits us in September. It seems to be more general in the counties around London than in any other part of Britain.

DR. NICHOLAS SANDERSON.

THIS man, born in 1682, at Thurlstow, in Yorkshire, is one of the most wonderful instances of the triumph of genius and perseverance over natural and apparently insurmountable impediments. When twelve months old, he lost his sight by the small-pox, yet, notwithstanding this obstacle to attain any science, where sight seems indispensable, he made an astonishing progress in algebra and geometry, and, at Cambridge, delivered lectures on the mathematics. Queen Anne created him M.A., and, in 1728, when George II. visited the above University, he received the degree of Doctor of Laws. He died in 1730. The works of this eminent mathematician are, "Elements of Algebra," and a "Treatise on Fluxions." Even by men of learning he was considered as a prodigy.

SCARBOROUGH.



“ How happy they,
 Who, from the toil and tumult of their lives,
 Steal to look down, where nought but ocean strives.”

SCARBOROUGH, so picturesquely situated on the face of lofty cliffs, which encircle a bay compared by many travellers to that of Naples, has been justly called “the queen of sea-bathing places;” for while it offers all the advantages of sea-air and bathing, it also possesses two springs of mineral water, long held in considerable repute, and which, about a hundred years since, caused the town of Scarborough to be, in point of popularity, what Brighton, Margate, or Hastings, are at the present moment. A curious book published in 1733, bearing the title of a “Journey from London to Scarborough,” gives a long list of the noble visitors at the spot, who were then declared to be “as thick at the Yorkshire Spa as berries in hedges.” The natural phenomena, the airy cliffs, castled crags, and silver sands, are so rich as to offer great and enduring attractions to the visitor. The strongly-marked geological formation of the coast, right and left of Scarborough, with its caverns and promontories, its clefts, its dislocations, and its elevation, are all sufficiently denuded to exhibit a very museum to the geological observer; while from Robin Hood’s Bay northward, to the Flamborough Head southward, a distance of 33 miles of coast, every inch of the land, which may be inspected at low water, over a course of the finest sands in England, is replete with interest to the naturalist, and may, in the romantic beauties of its scenery, recall, to the wanderer of other climes, views which remind him of those he has witnessed in the Adriatic, or in Greece, and which he little expected to find equalled on the N.E. coast of his own land.

The origin of this ancient town is unknown; but its old name of Scarborough is of Saxon derivation, signifying rock-fortress; and the majestic ruins of the castle from which the town thus took its name, are still among the most interesting objects of attraction in the neighbourhood. They crown a precipitous rock, whose eastern termination, which advances into the sea, rises about 300 feet above the waters. The principal part of the castle now remaining stands at a considerable distance back from this bold and inaccessible front, but on ground which is very nearly as elevated, and on such a range of perpendicular and inaccessible rock, that the fortress, before the invention of gunpowder, might well be deemed impregnable. A huge square tower, still nearly 100 feet high, and 50 to 60 feet square, with walls of 12 feet thickness, is now open to the sky; but marks are still discernible, of vaultings which had formerly divided the ascent into three stories, each of which must have been about 30 feet from the floor to the ceiling. An immense fire-place still remains on the ground floor. This tower was probably the keep of the ancient castle, and, as usual, has been preserved from destruction by its extraordinary strength and solidity, long after time has swept away nearly all the surrounding parts of the structure, the whole of which, standing upon about 19 acres of ground, was enclosed by a wall, and the gate guarded by a deep fosse or ditch, with a drawbridge over it; which fosse is continued along the entire length of the wall, leading southward from that point to the sea.

This important stronghold was built in the reign of King Stephen, by the Earl of Albemarle, who married a daughter of William the Conqueror, and ruled in this part of Yorkshire with such princely authority, that Henry II., being jealous of his power and influence, resolved to see, in person, the demolition of this supposed impregnable fortress; but on visiting Scarborough, the monarch was so struck with the important position of the castle, as a defence of the coast, that after expelling the Earl by force, he not only preserved it from destruction, but greatly augmented its strength and magnificence.

It has ever since remained one of the royal castles, and is still occupied by a small garrison, consisting of a few invalids who are accommodated in barracks of modern erection. Occasionally used as a prison for offenders against the State, we find, in 1665, the celebrated George Fox imprisoned here for twelve months; and although his constitution was extremely delicate and feeble, he supported the rigours of his severe confinement in a miserable cell, with perfect resignation and fortitude. He occupied three different rooms, at different periods, and one of these on the sea side of the castle, now in ruins, was at a little distance from the Lady's well, a spring of most important use to the garrison. "Lying much open," he remarks, "the wind drove in the rain so forcibly that water came in over my bed, and ran about the room, so that I was glad to skim it up with a platter."

A threepenny loaf lasted him three weeks and sometimes longer, and most of his drink was water, with an infusion of wormwood. The exemplary fortitude and inoffensive conduct of George Fox so conciliated the governor, Sir Jordan Crosland, and the officers of the garrison, that they ultimately became his friends and intercessors, and were accustomed to remark that "he was as stiff as a tree and as pure as a bell, for they never could move him;" he was consequently released by an order of the King, in which he was directed "to pass without molestation quietly about his lawful occasions."

One of the most memorable events in the history of the castle is the siege

it sustained in the civil wars of the seventeenth century, when it was held for the King by Sir Hugh Cholmley, and compelled by famine and disease to surrender. A few years afterwards it figured for the last time in our military annals, by sustaining another siege, from the holder having declared for the King, and the fortress again fell into the hands of the parliamentary forces.

While the ruins of this once-celebrated feudal stronghold look down upon the sea on one side, they have the town of Scarborough stretched below and around them on the other. What is called the lower town, rises from the shore in the form of an amphitheatre, while clustered on the cliff is the upper town, having in front a fine terrace, nearly a hundred feet above the level of the sea, and consequently commanding a vast expanse of ocean.

There were anciently two hospitals and four monasteries in Scarborough, of which no vestiges remain except the parish church of St. Mary, which, before the Reformation, had "three fair towers;" but the devastation which then took place, succeeded by the contests of the civil war, has left but imperfect remains of its former grandeur.

It sustained great injury during the attacks on the castle to which we have alluded, from having been made the principal station of the invaders; while the neighbouring church of St. Thomas, employed as a powder magazine, was totally destroyed.

The mineral waters are situated on the sea-shore at the foot of the cliff, and owe their discovery, in 1620, to a lady, who during her rambles on the sands was led to observe the peculiar colour and appearance of the water which oozed from the springs; and this, combined with the saline taste, inducing her to suppose it might possess medical properties, it was consequently analyzed; and when the healing properties of the springs were fully established, the place speedily became a resort for invalids. The two springs possess distinct properties—the chalybeate and the saline; the waters of both flow freely, are quite clear when issuing from the source, but speedily have a ferruginous deposit; its specific gravity is very little greater than that of distilled water, and its temperature is not affected by the season of the year. An imperial gallon yields 3 drachms and 45 grains of residuum, consisting of sulphate of magnesia, sulphate of lime, common salt, and a portion of protoxide of iron, and has been found highly efficacious in many chronic diseases particularly affections of the liver, indigestion under its various forms, and general languor of the system. It has a strong saline chalybeate taste, and is taken in doses of from one to four half-pints at short intervals, the early morning being considered the most favourable time for the purpose.

The wells were formerly protected by a mean-looking building, which has now given place to one erected under the direction of Wyatt, resembling those to be found at the Spas of Germany, and which commands perhaps as fine a prospect as can be imagined. In front, the wide strand encircles the margin of the ocean, the more distant expanse of which, lost to view on the left hand, seems bounded on the right by a succession of beautiful bays and concave shores, extending between Scarborough and Filey to the utmost verge of the horizon. In the foreground, the shore retreats from the water in a series of oolitic freestone cliffs, backed by "Oliver Mount," loftiest of the range, and 490 feet high. Between this mount and another as nearly elevated, yawns a chasm 400 feet wide, with a depth of nearly 80 feet, which in former days must have rendered any communication between the town and the Spa very difficult to all invalids.

Across this chasm a bridge is now thrown, resting upon light iron arches, and supported by three square insulated piers 70 feet high, with two end piers on bridge walls that connect the structure with the two opposite cliffs. The floor of the bridge, 14 feet wide, is formed of transverse planks perforated with apertures for the escape of rain water; a lofty open railing of iron serves as a protecting parapet along each of its sides. A moderate toll of half-a-crown a month is charged for each person desirous of enjoying the convenience of the bridge, and which permits them to have a singular view of the horse races occasionally held on Scarborough sands during the period of low tide.

Beyond the straight line of the bridge, a wide path, now in a direct, now in a zigzag form, leads to the Spa, for the protection of which building a species of sea-wall, or breakwater, has been erected at low-water mark. Its stability is undoubted, or else the great terrace, spread on the top of it, on which is seated the whole range of the new Spa buildings, would not, of course, have been erected. But fearful are the shocks it perpetually sustains, from the thundering waves of the German Ocean, the wearing action of high tide, and the frequent south-eastern gales which blow directly over the coast.

Piers for the security of shipping seem to date their origin from the time of Henry II., and were enlarged in that of George II.; but being still inadequate for the purpose, a new pier, sweeping into the sea, was built of extraordinary dimensions, and the ponderous rocks which compose it were taken from the quarry of "White Nab," about a mile distant. This curious quarry consists of a vast bed of flat rocks, lying upon the shore in regular strata: they are easily separated, are of a close texture, and so hard as almost to defy the tool of the workman. Some of these rocks are from twenty to thirty tons in weight, and to remove them, iron chains are fixed to them, when dry at low-water, and as the tide flows flat-bottomed boats, called "floats," take them on board by means of cranes, fixed for the purpose on board. The importance of a pier in the situation where it has been so ably constructed, is very manifest, as Scarborough haven is the only port between Tynemouth and the Humber where ships of a large burden can find refuge in violent gales of easterly wind.

By the advantages of a neighbourhood so rich in natural phenomena as Scarborough, the museum of the town has not failed to benefit; and though its limits are but confined, it contains much to interest the scientific inquirer. Beautiful specimens of animals, minerals, and birds, are so ingeniously arranged, that we ascend from the solid granite in the bowels of the earth up through the various strata, with all their "organic remains of a former world," till we find ourselves in the air, with the feathered tribes themselves. The deposit of fossil plants in the shale and sandstone at Gushorp Bay, about five miles north of Scarborough, has furnished specimens of the ferns and lycopodium orders in greater variety and preservation than any other known locality can offer. Usually of a black colour, displayed upon a greyish ground, they closely resemble drawings in India ink, and are consequently more precious than those of the coal formation, which merely present black upon black.

But what is called the "Lion of the Museum" is one of the greatest curiosities in this country. A few years ago a tumulus near Scarborough was opened, and, to the astonishment of the explorers, a huge trunk of an oak tree came to view, in which was enclosed a human skeleton, complete, and entire. The trunk of the oak, being split longitudinally, one portion

was excavated by rude instruments to form the coffin, and the other half constituted the lid. Some few weapons were found in this rude coffin, most of them arrows and javelins, tipped with flint, but only one metallic implement. The skeleton was doubled up, and the perfectly black bones were soaked in a fluid as black as ink, and which, in fact, it really was, for the rain of two thousand years had percolated through ground containing iron ore, and getting through the roughly-adapted sides of the coffin, it formed, with the tannin of the oak, an ink, that rendered the bones of this ancient Briton as black as jet. The remains were about six feet three inches in length, and not the least remarkable fact connected with the skeleton was the complete set of perfectly white teeth, which still remained in the skull, without a single speck of decay in them. When we reflect on the anxiety which all nations have evinced for the preservation of their mortal remains, or memorials of their earthly existence, we cannot but admire the success with which the heart of a British oak, hollowed out by rude hatchets and chisels, has thus preserved the bones of a savage for more than twenty centuries!

The produce of geological research, in the vicinity of Scarborough is not altogether applied to scientific purposes, some of it has the destination of forming ornaments. Whitby and Scarborough are both famous for the manufactory of jet, which is found at the former place in large masses, and cut at Scarborough into every species of ornament, such as neck chains, buckles, bracelets, paper-folders, and rings, and these at a price about one-fourth of what is demanded in London for similar articles.

In Robin Hood's Bay, distant about thirteen miles from Scarborough, is a fishing village, an attraction to visitors from the fame of its alum works, which are of some antiquity. They were first discovered in the reign of Queen Elizabeth by Sir Thomas Chaloner, and the English being at that time strangers to the management of aluminous salt, Sir Thomas is said to have "seduced some workmen from the Pope's alum works near Rome, then the most considerable in Europe." The little fishing-town likewise carries on a great trade in dried fish of the ling and skate kinds. These are preserved without salt, by being spread in the sun and wind, and for many years have formed a part of the victualling of ships for the East India Company, the fish being less liable to decay in hot climates than when salted. With potatoes it is deemed on the coast of Yorkshire an essential article of winter diet. In ascending the cliff, over which this village is strangely scattered, the road passes the immense mountains of alum rock which form Stoupe Brow; and indeed, throughout an extent of thirty miles along the coast is an almost uninterrupted range of alum rock, lying at different depths. At one part, called the Peak, are some very extensive works; and near them, on the top of a very high cliff, the Danes, under Ingvar, erected their famous standard, or flag, on which was portrayed the figure of a raven, and from which circumstance the place has ever since been known by the name of Ravenhill. The total destruction of Streanshalp Abbey at the same time is a convincing proof of the visit of these formidable invaders, while about two miles from Whitby is an eminence, also called Ravenhill, from a tradition that Ubba there erected his standard.

"Each with a gigantic stride
Trampling on all the flourishing works of peace
To make his greatness greater, and inscribe
His name in blood."

THE FAITHFUL SQUIRE.



It was towards the latter part of the reign of Henry the Fourth, on a stormy evening in the month of November, that a horseman was traversing a desolate tract of country on the borders of Wales. He evidently had lost his road, and his horse seemed as weary as his master. Coming to a place where the path branched off in two directions, he stopped, not knowing which to take; when, to his relief, he perceived a lad of about thirteen approaching, carelessly whistling a merry tune, as he trudged over the mountain to his home.

"Ah! my boy," said the horseman, accosting him, "can you direct me to the nearest village? I have missed my companions and lost my way."

"That I can, sir," replied the boy, speaking in a strong Welsh accent; "I will go with you myself, and, as I see by your glittering steel you are a soldier, perhaps on the way, you will tell me something of the last great battle, for I like to hear of brave fighting."

"Do you?" said the gentleman, "why, then, you should be a soldier yourself, my lad; what is your name?"

"David, sir, David Gam; and glad indeed I should be to go to battle and fight under Prince Henry. Oh! he must be a brave prince! I heard, sir, that in the great fight they had lately, not far from here, he was bold as a lion in the field, though he is not many years older than I am; and

though severely wounded in the face by an arrow, nothing could exceed his bravery. I wish, oh! how I wish I could fight under his standard."

"Well, you must ask your father to let you enter the army when you are a little older, David; will he consent, do you think?"

"I hope he will, sir, for I never can settle to anything else, I know. There are two more boys almost as anxious as I am about it, Llewellyn and Vaughan: and if we can but enter the army together, and fight for the prince, how happy we shall be! But, pray tell me, sir, was not the late victory a glorious one?"

The young soldier, smiling at the military ardour of the boy, good-naturedly entered into a circumstantial account of the battle in which he had lately been engaged, which so interested David, that when they at length reached the door of the little inn where the traveller proposed resting, he took leave of him in a tone of regret.

"Thank you, sir," he exclaimed, "for your kindness in talking to me; I see you are very wearied; you have made me wish more than ever to be a soldier, and I should like my captain to be just such a kind, noble gentleman as yourself."

"Well, David," replied the young soldier, as he dismounted, and the light fell upon his good-humoured and handsome countenance, "perhaps some day we may be in the field together, fighting for Prince Henry. Now go home, for I have brought you out of your way, my boy, and tell your father he must make a soldier of you before long." Saying this, he slipped a gold piece into David's hand, and entered the inn.

David, amazed, and not a little pleased at the liberal gift bestowed on him, ran home as fast as he could, and, full of praises of his kind and generous companion, entertained his father with an account of all he had heard, concluding by entreating him to allow him very soon to enter the army, and fight under Prince Henry.

"Well, son, we shall see about it," replied his father. "The prince is very brave, but I hear he is but a wild young man and not very choice as to his companions; the people call him 'Madcap Harry.'"

"Ah! but then he is very kind and generous, and everybody loves him," said David; "and brave as a lion, father."

"Still, I think he must cause the king, his father, some little trouble. Why, it was but the other day, when some of his wild companions were taken before Judge Gascoigne for their bad conduct, and condemned to be imprisoned, that the prince, who was present, was so provoked, he actually drew his sword upon the lord chief justice, and behaved in the most violent manner! The chief justice ordered him to prison with his friends, as he deserved; but was that fitting conduct for a king's son? He who ought to set an example of keeping the law, thus openly to insult it? Madcap Harry indeed!"

"Yes, but, father," David hastily answered, "Vaughan told me that when the judge ordered him to prison, Prince Henry, sensible he had done wrong, submitted without a murmur; and that the king, when he heard the story, was quite pleased, and said, 'Happy is the monarch who has a judge so determined to enforce the laws; still more happy in having a son willing to submit to them!' Oh, father, you may be sure he will make a noble king."

"I hope he may, David, I hope he may. To be sure, people say he has a good kind heart, and is not wanting in sense either; and that he is much loved by those about him. We will hope for the best, my son."

Not long after this conversation, circumstances drew David Gam and his family nearer to London. It happened one day that there was a grand feast in the city, and David, through the means of a friend, was so stationed in the large hall, that he could witness the scene—to him a new and surprising one. He, however, scarcely waited for the close of it, before he hastened home, and burst into the room, exclaiming,

"Oh, father! I have seen the prince! I have seen Prince Henry! and what *do* you think? he is the same brave gentleman that gave me the gold piece for showing him the way! the very same!"

"Indeed!" said his father, in astonishment; "how do you know? tell me all about it, David."

"Well, father, I went to see the feast, and a grand affair it was; such a large hall! and such lots of servants. The table was covered with dishes; such immense joints of meat, stewed porpoises, and great tigers made of jelly! I was so amused! there were large castles of pastry, and elephants of cake. But I forgot all that when I heard the company was approaching; in they came, with music playing, and people shouting, 'Long live the Prince!' they were all so gay, and at the top of the table sat a noble-looking gentleman, that they said was Prince Henry. He was dressed in a blue satin robe, full of oylet holes, and from each hole hung the needle it was worked with! So my whole attention was fixed on him, and I went nearer to where he sat, to have a good view of him. What was my amazement to recognise in him the young soldier whose path I had showed in the mountains! There was the same bright smile, the same kind expression, the same commanding, yet engaging air; and, as I saw how beloved he was by all, and heard anecdotes of his bravery and goodness pass from one to another, I felt, indeed, that he was a prince to live and die under! O! father, I *must* serve him."

I cannot now enter into the conversation that passed on this occasion, but you will be glad to hear that in a few months David's wishes were gratified, and he became attached to the service of the prince who had recognised him as he stood gazing at the royal procession one day.

"Ha! my brave little Welshman!" exclaimed Prince Henry, stopping to speak kindly to the boy; "what has brought you from your mountains?"

David immediately gave utterance to the wishes of his heart, and the result was, he entered the service of a master whom he loved and served faithfully from that hour to the day of his death.

King Henry the Fourth was now in a declining state of health, and subject to fits. It happened one day, when in one of these fits, Prince Henry entered the room, and thinking his father was really dead, carried away the crown, which lay by his bedside.

The king recovering, and missing it, inquired sternly who had taken it away. The prince confessed he had, and made a dutiful apology.

"Alas! fair son," said the monarch, "what right have you to the crown, when you know your father had none?"

"My liege," answered young Henry, "with the sword you won it, and with the sword I will keep it."

The king was silent for a time, then said in a faint tone, "Well, do as you think best; I leave the issue to God."

Soon after, this monarch died, and his son Henry ascended the throne, under the title of Henry the Fifth. David Gam was delighted to go and tell his father in what a promising way the new monarch had begun his reign.

"He is no longer 'Madcap Harry,' father," said he, "but wise, prudent, and just. I always thought he would make a good king, he is so brave and kindhearted, so generous and merciful. He has told his wild companions he could not see them any more, but he spoke so kindly to them, and gave them money; and he has praised the upright and good judges, and told them to go on acting as they had done; and the day his father died, he shut himself up in his own room, and passed the time in prayer. Everybody thinks he will make a good king now, and the people love him much. Oh! I am so glad I am his servant!"

And a faithful servant David Gam proved! King Henry, by his conduct, won the hearts of all his subjects, but none loved him more devotedly, none served him more faithfully than his Welsh squire. But David longed to follow his king on the battle field; to prove his love and loyalty by his bravery and courage in his master's cause; and an opportunity was not long wanting. King Henry determined to make war on France, and crossed the Channel with 30,000 men. Of course his faithful squire accompanied him, as did also his two friends, Vaughan and Llewellyn. The army was in high spirits when it landed in France, and Henry took the town of Harfleur; but the heat of the weather, and disorders brought on by eating fruit, carried off 20,000 men. With the remaining 10,000 King Henry resolved to return to England; but on their way to Calais, he heard that a French army, of nearly 60,000 soldiers, was waiting to oppose his progress; and when he arrived on a high hill, above the village of Agincourt, he saw this immense array stretched out on the plain beneath. What was he to do? To return was impossible—to go forward was impossible—and to attack 60,000 men with only 10,000, seemed running a great risk. But Henry knew the determined bravery of his soldiers, and resolved to hazard a battle the next morning.

He accordingly sent David Gam to reconnoitre the enemy, and the brave squire returned to tell his master "that there were enough to fight enough to be killed, and enough to run away."

King Henry placed his soldiers in the most advantageous position he could, with a thick wood on each side of them. They then retired for the night, some to rest and some to prayer. David kept close to his master, to wait upon him, and to attend to his slightest wish; and when, having completed all his arrangements, the king was also going to take some rest, David earnestly entreated that he would grant him one request.

"What is it, Gam?" said Henry, smiling, "you do not often trouble me with requests."

"It is, sire, that I may fight close to your side in to-morrow's battle, and that Vaughan and Llewellyn may share in the honour also."

"Your request is granted, David," said the monarch; "sure I am no king could be more faithfully guarded, or have braver defenders. Our number is but small, compared to that of the enemy; but if it please God to give us the victory, as I trust he will, the fewer we are the greater our glory."

The 25th of October, 1415, is a day long to be remembered in English history. On that morning King Henry rose early, and having first caused the whole army to assemble at prayer, prepared to give battle to the French. He rode along the line to view his troops, clad in shining armour, with a magnificent crown upon his head; and as he thus rode, on a white horse, encouraging his men, they were so delighted with their brave leader, that each soldier expressed his determination to conquer or die. As for David

Gam, he declared it was the happiest day of his life; and observed to his comrades, that he had often heard it said, "King Henry was a lion in war, but a lamb in peace;" he had served the lamb faithfully, but now he was to follow the lion; and he felt sure it would be in a path to glory.

Both armies now stood silently gazing at each other, neither willing to break their ranks by making the onset; till Henry, with a cheerful countenance, cried out, "My friends, since they will not begin, it is ours to set the example. Come on! and the blessed Trinity be our protection!"

Upon this the whole army advanced with a shout; and the English archers, who had long been famous for their great skill, let fly a shower of arrows, three feet long, which did great execution. The French cavalry advanced to repel them, when two hundred brave archers, who were concealed in the wood, each man with his bow ready bent, rushed out, and by another shower of arrows produced sudden confusion. The French presently beat them back, for the English were still enfeebled by disease, but their valiant and beloved king encouraged them by his presence and example, and again they advanced on the enemy with swords and battle-axes.

Meantime Henry, in the midst of the conflict, was fighting like a lion assisted by the faithful band—Gam, Vaughan, and Llewellyn. Nothing could exceed their devoted courage; they did not leave King Henry's side for a moment, but, while they fought most valiantly, watched every blow aimed at him, to ward it off. The Duke of Gloucester, who was near the king, was wounded and unhorsed, and would have been slain, had not Henry, with his usual generosity, defended him till he could be borne off the field. Then a French duke, who had made a vow to kill or take the English king, rode furiously at him, and, with a blow, cleft the crown on his helmet; the faithful Gam received the second blow, as he rushed between the duke and his royal master, and the next moment the French duke lay dead at his feet. In like manner, eighteen other French knights, who had taken the same vow, were all killed by the brave and devoted Welshmen.

The battle lasted only three hours, and ended in the total overthrow of the French; of whom ten thousand were slain, and fourteen thousand taken prisoners. The English, it is said, lost only forty men in all.

It was a splendid victory, but the royal Henry's heart was indeed sorrowful, as he saw his three faithful servants, Gam, Vaughan, and Llewellyn, at the close of it, stretched on the ground, and bleeding to death from the wounds they had received in their master's cause.

"Alas! alas!" said King Henry, as he bent over the dying men; "is this the reward of your gallant devotion to your king, my brave squires! Is there no way in which he can prove his deep sense of your loyalty and courage?"

"Ah, sire," replied David Gam, with a faint voice, "we are well rewarded! To die for such a loved and noble master is a glorious reward! I desire no other."

"But I must prove my gratitude and esteem, David," said Henry, taking the hand of his dying servant. "I will knight you; posterity shall hear of your actions, my brave Welshmen; and future generations shall speak of the devoted fidelity of the three knights who died for their king on the plains of Agincourt."

A proud smile of satisfaction gleamed on David's dying countenance, as, with his companions in loyalty, he received the honour of knighthood from King Henry's sword.

That little effort was his last! he sunk back exhausted on the grass, and with his eyes fixed in love and gratitude on his royal master, the brave and faithful David Gam expired.

The king, who had been so faithfully served, had a kind and feeling heart; and he dashed the tears from his eyes as he turned away from the sad sight, to give orders for the honourable interment of these gallant men.

You will be pleased to hear that his next thought was one of gratitude to God for giving him the victory, when everything seemed so fearfully against him. He gave orders that the 114th and part of the 115th Psalms should immediately be sung on the battle-field. When the soldiers came to the first verse of the last-mentioned Psalm, the whole victorious army fell down upon their knees, and shouted with one heart and one voice, "O Lord, not unto us, not unto us, but unto Thy name give the glory," &c.

This brilliant victory gave such delight to the English, and caused such joy, that when Henry returned in triumph with his royal prisoners, as he approached Dover, many of the people plunged into the sea to meet him."

"O! dear aunt," said Alice, "I am so sorry that is the end of the story! and I am so very sorry poor David Gam died! No doubt King Henry was sorry too; for he did all he could in that sad moment, by making him—Sir David Gam. He was a good king, aunt."

"He was, my love. Wise, just, pious, and undauntedly brave, Henry the Fifth was a monarch worthy to sit on the throne of England. His kind and generous disposition endeared him to his people, who had quite forgiven and forgotten the youthful follies of 'Madcap Harry.'"

"Was he generally victorious?" inquired George.

"Yes; he conquered France, and not long after the battle of Agincourt was declared heir to the French monarchy. It was agreed between Henry and the French King, Charles, that Catherine, the French princess, should be given in marriage to Henry; and that France and England should henceforth be united under one king. The marriage took place with much magnificence; but at the height of his glory, and in the midst of his brilliant career, the conqueror was stopped by death. He expired with the same fortitude and calmness which had characterized him through life, in the thirty-fourth year of his age, beloved and lamented by his subjects. When you think of Henry the Fifth, my dear children, remember him as a king who, when important duties devolved upon him, had the wisdom and good sense to forsake the follies of his youth, and attend to the advice of those who were older and wiser than he was; and when you think of his faithful squire, David, endeavour to imitate his fidelity, not only towards your earthly master, but towards your Master which is in heaven. 'Be thou faithful unto death.'"

PETRIFYING SPRINGS.

In volcanic regions, or in those where earthquakes have occurred at a comparatively recent date, springs are frequently loaded with mineral substances, which they abundantly deposit in their course. In many parts of Italy, the accumulation of chalky matter deposited by springs is so great, as to form rocks of much solidity and strength. The water which supplies the baths of San Filippo in Tuscany contains lime and magnesia, and has been known to deposit a solid mass thirty feet thick, in the course of twenty years. Extensive layers of this stony substance are found in the neigh-

bourhood of the springs, reaching a mile and a quarter in length, the third of a mile in breadth, and in some places attaining a thickness of two hundred and fifty feet.

The more loose and porous rock resulting from such springs, generally contains incrustated plants and other substances, and is called *tufa*; the more compact is called *travertin*; and is quarried for building purposes. Many of the most splendid edifices in Rome are built of this stone.



The whole western part of Asia Minor is full of Petrifying Springs, and even the rivers are loaded with mineral substances. Where the ancient city of Hieropolis once stood, there is a remarkable mass of rock, formed by the tufa, or soft stone, which the springs deposit. This rock appears like an immense frozen cascade, and is, in fact, the petrification of falling waters. Dr. Chandler thus describes this Petrified Cascade:—"The view before us was so marvellous, that the description of it, to bear even a faint resemblance, ought to appear romantic. The vast slope which at a distance we had taken for chalk, was now beheld with wonder, it seeming an immense frozen cascade, the surface wavy, as of water at once fixed, or in its headlong course suddenly petrified. Round about us were many high, bare, stony ridges; and close by our tent one with a wide basin, and a slender rill of water, clear, soft, and warm, running in a small channel on the top." The whole region abounds with marks of volcanic action, and the waters have long been celebrated for their extraordinary petrifying powers. It is related that in order to make stone fences round the gardens and vineyards of Hierapolis, it was only necessary to conduct the water into narrow channels, and they soon became filled up with stone. Dr. Chandler found numerous ridges or fences formed of petrified materials, and even a road which appeared a wide and high causeway, proved to be a petrification.

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A VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—No. VI.



GEELONG.

SECOND in importance to Melbourne is the town of Geelong, situated on the shores of the bay, or inlet, of that name which branches from the western side of the Port Phillip Bay. It is at a distance of about forty-five miles from Melbourne; and twice or thrice a-day excellent steamers convey goods and passengers from one town to the other in a few hours.

The Bay of Geelong is navigable for large vessels as far up as Point Henry on the southern shore, about six miles from the harbour of Geelong.

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From that point, however, a bar or shoal stretches across to the opposite shore. On this bar there is only nine feet of water at high tide, which compels large vessels to anchor on the outside of the bar, and entails the expense and inconvenience of loading or unloading them at that distance from the town. It is the opinion of practical men, however, that there will be no great difficulty or expense in removing this bar: in which case it is highly probable that Geelong would progress with such rapidity as to render it a rival to the city of Melbourne for the honour of being the capital of the colony. The bay is remarkably picturesque, and the situation of the town decidedly one of the best in Australia for a great commercial city.

Corio is the native name for the beach at Geelong, the latter term belonging properly to the inlet or harbour. The Barwon river passes Geelong on its tortuous course to the ocean; and there is a natural terrace on each side of the river, parallel to its banks, which was probably the ancient sea-beach, when the level of the land was considerably lower, and all the low ground under water. After passing Geelong to the left, the river, which in this part of its course is a beautiful stream, pursues a south-easterly course, nearly parallel to the Bay of Geelong, towards the great Southern Ocean. About nine or ten miles below Barrangoop, it spreads out into a series of picturesque lakes, variegated with islands, where multitudes of black swans and other waterfowl, in numbers almost countless, formerly sailed quietly along their silent surface, but which soon bid fair, before the destroying hand of man, to become *rara aves* indeed.

The peninsula included between the Barwon river and the Bay of Geelong, about twenty-five miles in length, containing probably near 200,000 acres, consists principally of land of the finest quality, whether for pasturage or cultivation. It appears to be a continuation of the same tract of level country that stretches along for upwards of two hundred miles to the westward of Geelong, between the coast range, or Marrack Hills, and the ranges of the interior.

The town of Geelong has, like Melbourne, its places of worship, its wide streets, its public buildings, fine shops and warehouses, its newspapers, and all other appliances of modern civilization; but as one pictorial sketch conveys a better idea than a hundred pages of description, we subjoin a view of the town, merely premising that its progress has been so rapid that even a single month is almost sufficient to produce most important variations in its appearance.

Immediately to the westward of Geelong there is much fine land and beautifully picturesque scenery, in what are called the Barrabool Hills, consisting apparently of decomposed trap rock, and presenting the most fertile soil to their very summits. All descriptions of European roots, fruits, vegetables, and grain thrive and flourish luxuriantly. The land is naturally so lightly timbered that the plough can be thrust into the rich chocolate-coloured soil in every direction without any previous preparation as regards felling the trees. Indeed, were it not for the shelter they afford to the parrots and cockatoos, which destroy the grain, their extreme beauty in the landscape would almost induce one to spare even those which occur in the midst of the cultivated fields.

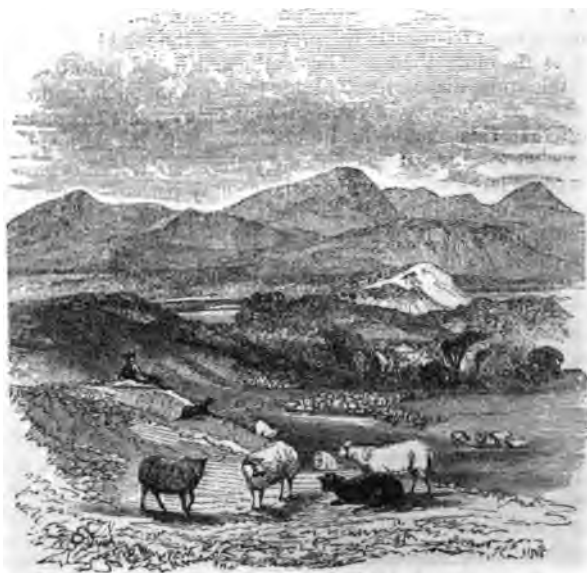
A larger quantity of wool is exported from Geelong than from Melbourne, and a larger quantity from the colony of Victoria than from the older one of New South Wales. In fact, the rich pastoral districts of this

colony not only led to its first establishment, but have ever continued to be its distinguishing feature. It must be a matter of earnest hope that the present pre-eminence of the colony also, as regards the abundance of gold, will not interfere to prevent the continued development of its resources as regards this intrinsically more valuable production. The prospects of the pastoral farmers for the present year are certainly of the most discouraging character. The rich prizes which the auriferous soil confers in such abundance upon its workers, seems to have acted with magnetic force upon every class of the community; and whilst the earnings of a whole year can so frequently be obtained by the labour of a single week, it is not surprising that all classes should endeavour to participate; and although sooner or later such a disproportionate application of labour must tend to cure itself, that reflection by no means tends to render those whose wool may be perishing on the backs of the sheep for want of shearers, or whose crops may be rotting on the ground for want of hands to wield the sickle, better satisfied with the existing condition of things. Unless the great body of gold miners should themselves be seized with a fit of reflection, and determine upon a short patriotic secession from the search after the precious metal, in order that the colonies may not run the risk of losing their hard-earned position as the chief wool-growers in the world, we can see but little hope for those who seem at present doomed within a few months to stand idly gazing, Tantalus like, at millions of "golden fleeces," without being able to collect them.

There is a wide difference between an agricultural and a pastoral farmer. The former is most frequently the proprietor of the land he cultivates, while the latter is no more than a "licensed squatter," a tenant at will to the Crown, liable to be dispossessed of his land the moment a purchaser of it may appear. At the present time, and for many years to come, it will be impossible that this should be otherwise. The large quantity of land required for pastoral purposes completely forbids the idea of purchasing it. There are some large sheep-owners who occupy perhaps as much as twelve thousand acres of land, which, at the Government price, would cost as many pounds, and the mere interest on the money would probably absorb nearly the whole amount which the wool itself would produce; and when we recollect that there are some six millions of sheep in the colony of Victoria, requiring for pasturage from twelve to eighteen millions of acres, we shall see at a glance that it would be simply impossible for the land to be purchased, even although the returns were much greater.

It is mainly to the exertions of the "squatters" that we are indebted for the great extent of land which has been explored and occupied. Having fixed upon a tract of land suitable for pastoral purposes, the squatter pays his licence-fee of ten pounds for liberty to occupy his land for a year; he places his stock upon it, and continues for a few years paying an annual visit to the metropolis to dispose of his wool, pay his annual licence-fee, and purchase stores for the ensuing year; amusing himself as best he can in his chosen solitude. But new-comers are ever arriving, and the land round his station is gradually occupied until no more remains available without the labour and privations of a new exploration to still more remote portions of the interior. The capitalist, fresh from home, and scarcely yet reconciled even to a "life in the bush," hesitates to enter upon this task, and looks round for some one who will be willing to part with his established location, for a "consideration." Our old squatter, of course, cannot sell his run, having no title to the land; but he sells the sheep which are upon it, at an

advanced price per head, in consideration of relinquishing his claim and his licence to occupy the land, to the purchaser. He then yokes his bullocks to his dray, having stored it with provisions, and placed in it his gun and some ammunition, mounts his horse, and, with his compass in his pocket, sallies forth, soon leaving the last trace of civilization behind him, and, like a minor Columbus, proceeds on his way to discover a new (pastoral) world. After having had, perhaps, to cut his way through tangled brushwood at the rate of a mile or two per day, and to spend day after day upon the banks of some stream before he can find a fording-place—perhaps having to leave his bullock-dray for a while and scale awkward hills, in order, if possible, to discover the best way of finding a practicable road through them—he at length comes in sight of a piece of open country whose expansive downs promise him the wished-for pasturage, and whose magnificent meadows are watered by some clear winding stream, with its frequent water-holes, to insure an ample supply if the stream itself should chance to fail. Having taken a note of its landmarks, he retraces his steps; and making his way to the Government Commissioner, pays his 10*l.* for leave to occupy his newly-discovered land, purchases his stock, engages his shepherds, and proceeds to people the yet untrodden pastures with myriads of sheep, whose white fleeces dotting the beautiful green valleys, alter at once the character of the scene, and from a solitary wild convert it into one of the loveliest pictures which nature and civilization together can present to the eye.



SHEEP STATION.

The above illustration will serve to convey some idea of the appearance of one of those sheep stations which we have just been describing. The sketch was taken in the beautiful Valley of the Goulburn. The plain so called is about fifteen miles in length, with an average breadth of eight

miles, and bears traces of having, at some remote period, formed the bed of a lake, and the ridges that run out into it from either side have all the character and appearance of headlands. The stones with which it is covered in some spots, or which are found by excavation, consist of quartz pebbles, rolled stones and shingle, as if from the sea-beach or bed of a river. There is a series of plains of this character, more or less of alluvial formation, along a large extent of the mountainous portion of Eastern Australia; the general elevation of these plains being about two thousand feet above the level of the sea. There are the Goulburn and Breadalbane plains to the south, the Bathurst plains to the west, and the Darling downs to the north; the last-named series of plains being a hundred and twenty miles long, and from thirty to forty in breadth.



CATTLE STATION.

It is not only to sheep, however, that the squatters direct their attention, cattle are also an equal object of their solicitude; but as regards the latter, it will not do to change a station so often as in the case of sheep. You may remove sheep from one station to another, as often as you think proper, as they will feed contentedly anywhere; besides which they are never left unattended, and at night are invariably confined by hurdles. But the cattle have a peculiar attachment to the place to which they have been accustomed, and require at least six months to reconcile them to a new one. They have been known to find their way to the place where they had been bred, over a distance of three hundred miles. Great care is therefore necessary in selecting a station which possesses sufficient space, sufficient food, and sufficient water to render it unnecessary to remove for many years. The cattle station, the sketch of which is annexed, is not many miles from the sheep station represented in the previous illustration.

The pre-eminence of the colony of Victoria, however, is not confined to its capabilities as regards pasturage. It has not only surpassed the main colony in the rapidity of its progress, the beauty of its scenery, the excellence of its land, and the exports of its staple produce, but it has also left it far behind in its yield of the precious metal, gold. The subject of this latter discovery we have reserved to a special chapter, in which it will receive due consideration. But the mineral riches of the colony are not restricted to gold alone, for evidence has been discovered of the existence of other metals, which when the gold is either exhausted, or its collection attended with such difficulty as to render it no longer a subject of more than ordinary interest or excitement, will form a no-less valuable source of wealth and prosperity as regards the ultimate progress of the colony. Copper ore has been found quite equal to that from the Burra Burra; samples of plumbago and of lead ore have also been obtained; and we have also specimens of that scarce metal, platina, which is likely, from its greater rarity, to become even more valuable than gold itself. Last but not least, we may announce that that inestimable mineral, coal, without which our knowledge of all the others would be nearly useless, has been discovered in abundance within a few miles of the city of Melbourne.

We may observe, in conclusion, with regard to this colony, that from all the appearances connected with it, from the rapidity of its progress, the salubrity of its climate, the fertility of its soil, the richness of its pastures, the beauty of its scenery, the excellence of its position, and the variety and abundance of its mineral treasures, it appears destined at no very distant date to become the most important portion of the Australian continent, and the first in value and interest of all the colonial possessions of the British crown.

HISTORY OF GUTTA PERCHA.—No. III.

ONE of the most interesting properties exhibited by gutta percha is its insulating power for electricity. Dr. Faraday has given an account of this quality, in a letter to the *Philosophical Magazine*. Its use depends, he observes, upon the high insulating power it possesses, under ordinary conditions, and the manner in which it keeps this power in states of the atmosphere which makes the surface of glass a good conductor.

The electrical properties of gutta percha have been employed in the construction of excellent electrical machines. If a sheet of the very thin gutta percha, of about four or five feet, of superficial area, be laid on a surface, or held against the wall of a room, rubbed with the hand in a silk handkerchief, and then carefully removed by the extreme edges, and held suspended in the air, it will give off a brush-like spark, of several inches in length, to the knob of any conducting surface presented to it. A similar effect may be produced by causing the sheet of gutta percha to be passed once over one, or between two, rubbing surfaces.

An ingenious electrical machine has been constructed of this material, which consists of a frame carrying two wooden rollers, round which, and fitting them very tightly, is made to pass a band of thin sheet gutta percha, about four inches wide. There are two cushions covered with silk, and connected together, so as to press the gutta percha at their upper extremities, and opening towards their lower extremities, at an angle of about 20° . When the handle of the machine is turned, causing the gutta percha band to pass at a moderate velocity, electricity is given off at about three or four

inches below the machines; and if a conductor be applied, the apparatus is qualified to act as a common electrical machine.*

The most valuable application of the insulating properties of gutta percha, is that of covering wire for the Submarine Electric Telegraph. The most recent experiment on a great scale of this kind is the telegraph between Ireland and England; and the following account given of the laying down of the gutta percha wire is so interesting as to deserve extraction into our pages. It appeared in *Saunders' Gazette*, which contained an instructive history of the origin and completion of the undertaking:—

“The Howth and Holyhead Submarine Telegraph is now an established fact, and its promoters are well worthy of the earnest congratulations of all who are capable of appreciating the attributes of decision, energy, and skill. It is to Messrs. Newall and Co., of Gateshead-upon-Tyne, assisted by the Gutta Percha Company of London, that Europe and America are indebted for the Howth and Holyhead Submarine Electric Telegraph. Three several companies had been advertised for telegraphing across the Irish Sea; the usual means for alluring shareholders, electing directors, appointing agents, engineers, &c., had all been put into operation. These necessarily ponderous and unwieldy corporations were slowly and laboriously proceeding to put their much-talked-of schemes into practice, when about three weeks ago the idea flashed across the mind of Mr. R. S. Newall,—‘This Irish Telegraph will be a paying concern; it will not require much capital. The firm with which I am connected have facilities for doing the thing; why should not we set about it and do it at once ourselves?’ He accordingly explained his view to his partners, got their consent, and immediately applied to Mr. S. Statham, conductor of the Gutta Percha Works, Wharf-road: ‘Can you supply us with eighty miles of telegraph wire, doubly covered with gutta percha, within a fortnight?’ ‘I’ll try,’ was Mr. Statham’s response; and accordingly it was commenced and finished within the time agreed on, being latterly done at the rate of twelve miles a-day. The coated wire was then sent down to Gateshead-on-Tyne to be surrounded with twelve galvanized iron wires, twisted round it in a spiral. The cable being finished, Mr. Newall called on Mr. Statham last Tuesday week, and then for the first time told him the object for which it was manufactured. It was agreed that Mr. Statham should bring a staff of assistants, and the requisite apparatus, to Holyhead the next day to meet the wire. The Admiralty was communicated with, and kindly sent down Captain Beechey, R.N., to give his valuable advice and assistance; and they also lent the ‘Prospero,’ Government steamer, Lieutenant Aldridge, R.N., to aid in carrying out the undertaking. Meanwhile the ‘Britannia’ was hired to bring the cable from Whitehaven, and afterwards pay it out from Holyhead to Dublin. The enormous cable, eighty miles in length, weighing a ton per mile, and all in one continuous piece, was wound up into immense coils, placed on trucks, one after the other, and drawn by steam from Newcastle-on-Tyne to Whitehaven—from one side of England to the other. The ‘Britannia,’ as has been stated, steamed to Whitehaven to take it on board, when, unfortunately, it was found that the entrance to the dock was too narrow to permit the vessel to enter. The coils had then to be replaced on trucks and carried to Maryport, where they were at length embarked, and speedily conveyed to Holyhead. Now, it might be hoped that all difficulties had been overcome, and that there was nothing to do but to lay down the line; but Mr. Statham, who had already achieved the Dover

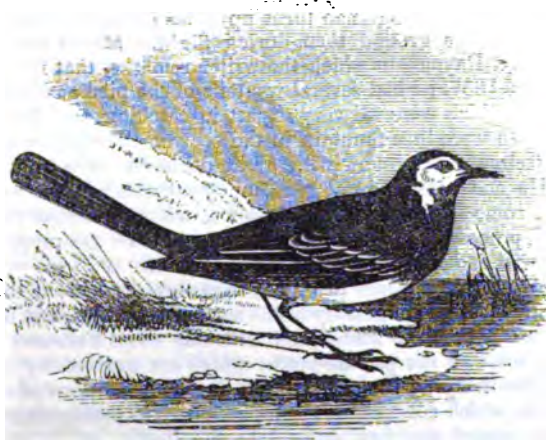
* Mr. W. Barlow in ‘Philosophical Magazine.’

and Calais connexion, knew too well the dangers and accidents to which those concerned were liable, in the event of a gale, to trust anything to chance, or to proceed one step further without a careful preliminary inspection. The insulation of the copper was tested and found to be defective; then the portions stowed in the various departments of the ship were examined separately, and at last it was ascertained that the fault lay in some eight miles of line lying in the bottom of the hold. There was nothing for it but to disembark the leviathan bulk, and to track it step by step to the exact seat of the defect. This was accordingly done, the fault remedied, and by Tuesday morning the giant rope was in readiness to be placed in its abiding home. Early on Tuesday morning the 'Britannia,' under the command of Captain Browne, and towed by the 'Prospero,' under Lieutenant Aldridge, R.N., commenced paying out the cable, according as it sank by its own weight to the bottom of the sea, along the route from Holyhead to Howth. There were on board, besides the officers and crew, Mr. R. S. Newall, with a gang from the Gateshead Works; Mr. Samuel Statham, with a party from the Gutta Percha Works; Mr. Thomas Allen, the inventor of a new telegraph instrument; and Mr. Reid, jun. Mr. L. D. Gordon (Mr. Newall's partner) had previously departed to Dublin to supervise the land line from the latter city to Howth. Occasional difficulties were experienced in the paying out of the coils, but they were all overcome through the skill and energy of Messrs. Statham and Newall. Slowly the vessels ploughed on at a rate varying from three to five miles an hour, and at length, between seven and eight o'clock on the same evening, the 'Britannia' anchored off Howth. An electric current was sent through the wire to Holyhead, and the returning answer brought the pleasing intelligence that the line was all right throughout, and perfectly insulated. The portion of cable requisite for completing the connexion with the shore and land line was now laid down, and the parties engaged in this arduous undertaking sought some repose, after nearly two days and nights of excessive and harrowing exertion, about daybreak on Wednesday morning. It might be supposed that everything was now smooth and prosperous. Buoyant with hope, those who had already suffered so much in the attempt went down at noon on Wednesday to the Amiens-street terminus, to test the success of their enterprise. The batteries were put in action, the wires were connected, and they anxiously awaited a reply; but none arrived! They telegraphed to Howth, and were answered—the fault was further off than the land line. An express train was provided, and they dashed down to Howth. Again they telegraphed to Holyhead from the shore—no answer! They took a boat and rowed to the ship. A message sent to Holyhead brought back the reply that all was right there. It was now manifest that the fault lay somewhere between the 'Britannia' and the shore. It was necessary again to take up this portion of the line and test it little by little. The defect was probably caused by the straining of the ship upon a line comparatively short. When discovered, it was soon remedied on board. It was again recoiled into an open boat, the crew of which made a renewed attempt to lay it down to the shore. In the meantime Messrs. Statham and Newall proceeded to shore in another boat with the instruments; but when they overtook the boat which had been engaged in paying out the cable, they found it at a stand, the crew having managed to sink the whole line while still some distance from the shore. Again Mr. Statham had to return to the ship, get another mile of cable uncoiled, recoil it in the boat, and then row to where the deficient extremity

of the cable remained; and there, in an open boat, at two o'clock in the morning, with the aid of a little burning spirits, to solder the wires, reunite the gutta percha, and restore the cable to a continuous and insulated whole. This was effected, the remaining distance to the shore laid down, and that night of toil was at length repaid by a success the most ample and complete. On Thursday the 'Britannia' let go the cable and steamed away; while those on shore, after repeated experiments, were satisfactorily convinced that the communication with Holyhead was now at length without impediment."

OUR NATIVE SONGSTERS.

THOSE who are used to ramble among the lands made green and luxuriant by the silver streams which meander among them, must have remarked those merry graceful birds, the Wagtails. Now we see them peering down among the leaves of the water-flowers, or wading into the stream itself, and seizing the slugs and shell-fish which lie hidden there, or the beautiful winged creatures resting for a moment upon them; or devouring the larvæ of some, which, if left untouched, would soon be rising on wings of azure and gold. These birds are most delicately formed, with slender bodies and equally slender feet, their small heads terminated by exquisitely-moulded bills, and their long well-balanced tails moving up and down perpetually. The merry wagtails, or dishwashers, as country people call them, may be easily distinguished from any other birds, for none of our wood or stream-side minstrels at all resemble them in form, or in the black and white plumage which is so conspicuous even at a distance in the commoner species.



PIED WAGTAIL.

The Pied Wagtail* (*Motacilla Yarellii*) might, for some of its habits, be almost classed with the waders, for it will remain in the shallow water

* The Pied Wagtail is seven inches and a half in length. The ground colour is black; but the forehead, the sides of the head and of the neck, the edges of the wing-coverts, and of the tertials, the outer tail-feathers, and the belly, are white. These are the hues of spring; but in winter the back becomes grey, and the chin and throat are white: the beak and feet are black.

for ten minutes at a time, walking along in pursuit of spiders and other insects. Sometimes it may be seen thus employed at the edge of the rivulet, or running along over the lawn of the garden, or on the meadow land; or making a short and sudden flight, with its tail outspread like a broad oar, and sailing about in the air with most graceful evolutions. It is no wonder that the birds have the popular name of wagtail, for this tail of theirs seems in incessant motion, vibrating not only in its flat and oar-like state during flight, but also quivering perpetually when raised in a perpendicular direction, as the lively creature runs along the ground. The French call these birds *les lavandières*, for they are often the constant companions of the washerwomen, who in France assemble by the sides of rivers to perform their occupations, and whose operation of beating the linen the wagtails seem to imitate by the movements of their tails. The birds seem, indeed, at all times perfect types of symmetry and glee, running with delight into the water, waging perpetual war with the insect race, and, during the period when their young demand food, requiring no small number to provide for their eager voracity. Nor do the parent birds themselves find a few sufficient for their supply, for they devour them with insatiable earnestness; and as they jerk about in the air after the gnats, or run pecking over the ground, their lively shrill notes of "guit, guit, guit," have a sound which accords well with their active motions.

The pied wagtail seems fond of the companionship of man, often keeping near the labourer in the fields, and seeming far less fearful of him than of the bird of prey. It will run by the cattle, and look well into the broad furrows which the passing ploughshare leaves in the field, making successive leaps as it follows this; rising in the air considerably at the beginning of each effort, and sinking again at the close; swallowing a number of insects, which the ploughman turns up in his course, taking them more frequently from the ground than during flight. Mr. Yarrell quotes a letter from Mr. Rayner, in which the writer remarks, that in the summer and autumn of 1837, he had several wagtails of the pied and yellow species in his aviary, which were all very expert in catching and feeding on the minnows which were in a fountain in the centre. They hovered over the water, and seized the minnow with great dexterity as it approached the surface. He adds, that he was also much surprised at the wariness and cunning of some blackbirds and thrushes, which watched the wagtails during this process, and no sooner saw them take the prey, than they wickedly seized and secured it for their own dinners.

The pied wagtail appears to be a permanent resident in the southern parts of England, but is migratory in the northern counties, and in Scotland, leaving at the approach of winter, and returning about February or March. In autumn some of the pasture-lands, which are watered by streams, are rendered quite lively by the graceful and incessant motions of small flocks of these birds, which congregate there previously to taking their departure. As evening comes on, they retire into the bushes or copsewood near, making an incessant clamour, till darkness has overtaken all nature. As they wing their way onwards, with their jerking flight, made at no great height in the air, their noisy clamour would suggest the idea that the whole party was engaged in quarrelling with each other, no two holding the same opinions. The pied wagtail was, until recently, believed to be the same as the continental species, and both kinds were included by ornithologists, under the name of *Motacilla alba*. Mr. Gould ascertained that they were quite distinct from each other, and that our English wagtail is

much more robust than the white or pied wagtail of France, and of Europe generally. During winter, the colours of the two species are so similar as to account for their having so long been thought one; and their manners and habits are exactly alike. In summer, however, the pied wagtail of England has the whole of the head, back, and chest of a full deep jet black; while in the continental kind, at this period, the throat and head alone are of this colour, and the rest of the upper surface is of a light ash grey. This writer considers, that the *Motacilla alba*, though so common in the neighbourhood of Calais, has not yet been discovered on the opposite shores of Kent; he therefore named our English bird after the excellent naturalist, Mr. Yarrell. There are some good observers of birds, however, who think that the continental species is occasionally seen in our island.

The pied wagtail has, besides its call-note, a sweet and varied song, though not a loud one. In autumn it is like a low sweet murmur. "Encore," says the old French naturalist Belon, "*ils savent rossignoller du gosier mélodieusement, chose qu'on peut souvent fois ouïr sur le commencement de l'hiver.*" It builds its nest generally somewhere near the stream, sometimes placing it in holes, or on a bank near to the edge of the water; but more frequently among piles of wood, or in heaps of stones, or perhaps in some old pollard willow which grows near the river, and whose ancient trunk remains when the greener boughs have long since disappeared. This wagtail is not a nest builder, and its dwelling is constructed somewhat carelessly, of small roots, and moss, and fibres of grasses mixed with wool, and lined with hair. The eggs are five in number, of a greyish-white colour speckled with brown. There are usually two broods in the year, and the parent birds are most courageous in the defence of their young, flying round and round the person who takes the nest, as if determined not to forsake it, and all the time uttering a wild scream of agony. Few birds either are more careful in keeping the nest clean, and removing from it continually anything which might render it unfit for the delicate little nestlings whose home it is.

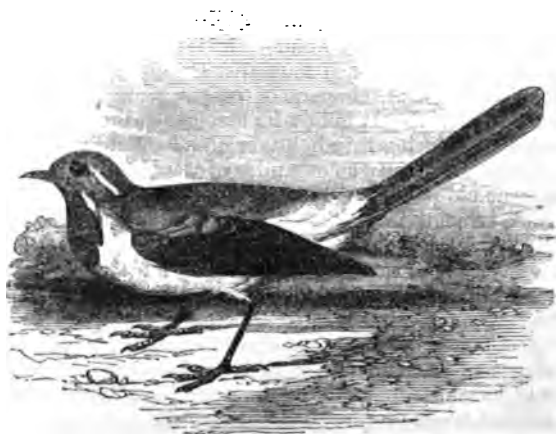
The wagtail will not long endure captivity, but its song, though sweet in a wild state, offers little temptation to the bird-trainer. In Egypt the flesh of these birds is eaten, and they are dried in the sand for this purpose.

That intrusive bird, the cuckoo, seems greatly to prefer the wagtail's nest to that of any other, when she intends finding a place for her eggs. The cuckoo has been often observed narrowly watching a pair of wagtails, during the process of nest-building, and indeed the busy birds can rarely escape the prying eyes of the less industrious one. Mr. Hoy, of Stoke Nayland, remarks: "On one occasion I had observed a cuckoo, during several days, anxiously watching a pair of wagtails building. I saw the cuckoo fly from the nest two or three times before it was half completed; and at last, the labour of the wagtails not going on, I imagine, so rapidly as might be wished, the cuckoo, deposited its egg before the lining of the nest was finished. The egg, contrary to my expectation, was not thrown out, and on the following day the wagtail commenced laying, and, as usual, the intruder was hatched at the same time as the rest, and soon had the whole nest to itself."

On another occasion, a cuckoo was observed to deposit its egg in the nest of the pied wagtail. In process of time, the young foundling was seen at the top of the thatch of the building where the nest was, and where its foster parents carefully fed it. The swallows, however, are not so for-

bearing with intruders, but seemed in this case highly indignant, and determined to frighten the innocent cause of their displeasure. They came down upon it, swooping to and fro in their anger, but the little cuckoo made neither defence nor appeal, but simply threw back its head, and opened its mouth, though, as he who observed it adds, "whether in fear, or to intimidate them, I cannot say."

The Grey Wagtail* (*Motacilla boarula*) is even a more elegant and graceful bird than the pied species. Like that, however, it loves the stream-sides, though it seems to prefer hilly districts to plains. It seeks its food on the borders of brooks and rivers, and comes, too, to the stagnant ditch where the constant decomposition of vegetable substances engenders a great profusion of insects. Its song is very superior to that of



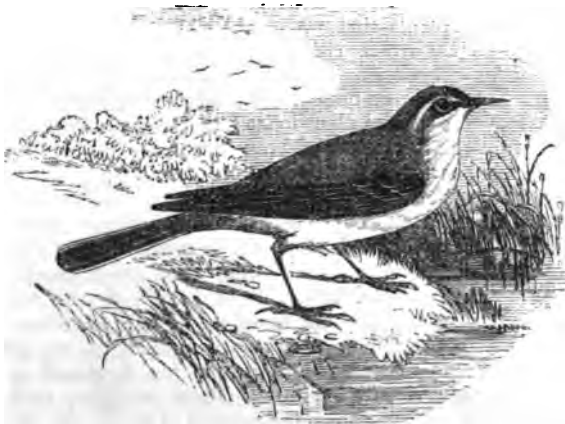
GREY WAGTAIL.

the pied wagtail; while its shrill call-note often attracts the attention of those who would not else observe it. This consists of the words "chiz, chiz, chizzle, chizzet," so that, as an accurate observer has said, it seems very fond of the letter z. The same writer, in a contribution to the Magazine of Natural History, remarks: "I have been amused with a singular habit which I have noticed in several individuals of the grey wagtails. They were fond of looking at their own images in the windows, and attacking them, uttering their peculiar cry, pecking and fluttering against the glass, as earnestly as if the object they saw had been a real rival instead of an imaginary one; or perhaps they were only admiring themselves, and testifying their satisfaction in this way. It is remarkable, that two of these instances were in the autumn, when the same motives for either love or animosity which would be likely to actuate them in the

* The Grey Wagtail is seven inches and three quarters in length. Upper parts slate-grey; wing and tail feathers black with yellowish edges; the outmost feathers of the tail almost wholly white; chin and throat black, descending in a point on the breast; a streak above each eye, and one on the side of the neck, pale buff; whole under parts and the upper tail-coverts brilliant yellow. In winter the black disappears from the chin and throat, which with the breast and belly become yellowish-white; the beak and feet are dusky brown.

spring, would no longer exist. The first of these instances occurred when I was a boy, and was repeated daily, and almost hourly, both against the windows of my father's house and those of that of our neighbour; who being rather superstitious, was alarmed about it, and came to consult my mother on the subject. She said there was a bird, which her brother had told her was a barley bird, which was continually flying against the windows; and as birds were not in the habit of doing so at any other time, she thought some serious calamity was portended by it. My mother comforted her as well as she could; and I undertook to rid her of the annoyance. By setting a horse-hair noose on one of the window ledges, which it was in the habit of frequenting, I soon caught it; and by plucking out the under tail-coverts, which I wanted to dress yellow duns with, I effectually cured it of the propensity."

This bird is, during the summer, very generally diffused throughout Europe. In Scotland and the northern counties of England it is a regular summer visitor, coming to us in April, and quitting at about the end of September. It is described by Selby, however, as having been seen in the south of England in the winter only during its southern migration. It has two broods each season. The nest is usually placed in some rocky ledge near the clear pebbly stream, or among some heap of stones, or perchance in a hole which the bird finds in a neighbouring bank, where the gentle murmuring of waters may serve as an accompaniment to its pleasing song. The eggs are of a yellowish-grey tint, with dashes of a darker colour.



YELLOW WAGTAIL.

The Yellow Wagtail* (*Motacilla flava*) frequents downs and open arable lands, and is very similar in its habits to the grey species. It builds on the ground, and its eggs are of a pale brown, marked with a darker hue. It is a migratory bird, arriving here in March; and its song is very sweet.

Besides the various songs of the birds already named as frequenters of

* The Yellow Wagtail is six inches and a half in length. Upper parts pale olive; wing and tail browner; whole under parts, as well as a streak over the eye, brilliant yellow; beak and feet black.

well-watered lands, the call-notes and chirpings of several others may be heard in such scenes; and the low sweet notes of the Bearded Titmouse (*Calamophilus biarmicus*) in some few places come sounding from the reeds, "like a little silver bell," which sends its clear ringing tones far away over the grassy meadow; and the merry hurried song of the March Titmouse (*Parus palustris*) falls there upon the ear. Here, too, the black-headed Reed Bunting (*Emberiza schaniolus*) comes in company with many of its fellows to seek its food and rear its young among the reeds and long grasses of the stream, and sings its song as if in too great a hurry to enunciate it fully. It is often said to be one of our few night singers, but we cannot claim for it this distinction; and it is probable that the notes of the sedge warbler, heard during night from the reeds, have been mistaken for those of the bunting. But it is no great singer at the best of times, and only deserves a slight mention in our enumeration of singing birds.

THE FERN TRIBE.

In traversing the country during the months of summer and autumn, the eye of the traveller is irresistibly attracted by the extreme beauty of a class of plants which adorn the hedges, banks and rocks, fringing the sides of the rivulet with their graceful drooping foliage, or clothing stone walls, bridges, rocks, and ruins with a living verdure of rare beauty. Along the broad margin of the mountain stream, or in the fair green glades of the umbrageous woods, these magnificent groups of tufted Ferns (for it is of that noble tribe of plants that we speak) may be seen, whose finely-cut leaves, of a most vivid green, rising three or four feet in height, might form a coronal for a forest monarch, glorious in form as in hue. Perhaps, if the ground happens to be boggy, close by these splendid tufts of Fern the wanderer may find a regal plant indeed, the *Osmunda regalis*, throwing up its feathery foliage in clusters of branching leaves, from six to ten feet high, which spring straight from the root, dividing as they ascend into what look like branches, but are in fact divisions of the leaf called *pinnae*, which droop with a graceful curve earthward. Some of these *pinnae* are terminated by a sort of fingered point of a brownish hue, of a singular and beautiful appearance. "What is it?" asks the uninformed who sees it for the first time; "can it be the eggs or other deposit of some insect? can it be blossom or seed?" and the like questions he will ask when he gathers two or three leaves (or *fronds* as they are termed) of any other of the varied kinds of Ferns that he meets with in his woodland or mountain ramble, and finds them closely beset on the back with grey or brown spots symmetrically arranged, some down the mid-rib of the leaves, others around the margin of each leaflet, whilst again on others a mass of this brown substance extends over the whole surface of the leaf.

Let us see whether a few very simple rules may not aid those who have been delighted with the beauty of the Ferns which adorn their pathway, and as yet wholly ignorant of the structure of this interesting tribe of plants to be able to discriminate a little between their various species, and to view them with other interest than that with which the mere superficial observer looks at them.

"How may we know a Fern from any other plant?" is a question more frequently asked than well answered. I have heard a learned man who had widely-extended information on many subjects reply to it, "Why, they are

those very large leaves which grow in the hedges." Now it is true that there are some large leaves which grow in the hedges which are Ferns. The great Shield Fern (*Lastrea Filix mas*), the Bracken (*Pteris aquilina*), and some others, may be instanced; but there are also many large leaves which are not Ferns to be found, and moreover there are very many Ferns which neither grow in hedges or have "large leaves," for some are so diminutive that their venation and fructification can only be determined by the aid of a microscope, the whole plant often not being an inch long; and those of this description usually are found not in hedges, but on walls and rocks, some growing out of the driest mortar in the chinks of old walls, and others beneath the dash of the waterfall, on crags and inaccessible rocks and cliffs.

Loudon gives two distinctions which prevail between Fern and plants of other orders. The first is "found in the situation of what is called their *sori*, or patches of reproductive organs, which are in all cases inverted on the back surface of the leaf or frond, sometimes appearing only in the form of little spots, sometimes covering the whole of the under side of the frond, and sometimes contracting the substance of the frond so as to give it the appearance of a single mass of fructification." The other distinction is, that "the fronds are always rolled up in a circular manner when they are first developed."



ADDER'S TONGUE.



MOONWORT.

Most people will have noticed this singular appearance of the young leaves of Ferns in the spring, especially that of the great Shield Fern whose brown hairy stem when thus beginning to appear looks like a large brown

caterpillar rolled up, and, as it develops, assumes the form of a crosier, or shepherd's crook.

The whole tribe of Ferns (Natural order, Filices) is divided into two parts. The first includes those whose thecæ, or little masses of seed vessels, are provided with an annular ring, by the operation of which the cups containing the seeds are torn asunder and the seeds dispersed: these are called *Annulatæ*. The second includes those which have no such provision, and these are called *Exannulatæ*. The "flowering Fern" (*Osmunda regalis*), the "Moonwort" (*Botrychium lunaria*), and the "Adder's Tongue" (*Ophioglossum vulgare*), belong to this latter class, whilst all other species of British Ferns are to be included in the former. This class, the *Annulatæ*, is subdivided into two sections; in the one the thecæ are attached in masses to the back of the frond; in the other they are attached in a receptacle situated on the margin of the frond. Each of these two sections contains within itself several families, determined by different circumstances connected with the placing, form, and other variations of the thecæ and their coverings.

Now let us see what are the different parts of a Fern. Each has, 1st, a root; 2ndly, a part which connects that root with the fronds, and out of which they spring, which is called the Rhizoma, and is that which in the tree fern forms the trunk; and 3rdly, the fronds, or leaves. The Rhizoma, when it creeps underground, is called *creeping*; when it rises above it, *tufted*. The frond consists of a stem extending from the Rhizoma quite to the apex of the frond called the *Rachis*. On either side of the main stem, the leaflets, or other arrangements of the foliage, are disposed. In some Ferns the frond is pinnatifid, that is, the little leaflets, or pinnæ, are not quite divided from each other. The "Northern Hand Fern" (*Lomaria spicant*) is one of this formation. Others, as the "Rue-leaved Spleenwort" (*Asplenium Ruta Mararia*), are *pinnate*, that is, having the leaflets quite separate. The Bracken is *pinnulate*, that is, divided into branches, and the pinnule in this and some others are again divided into *lobes*. The Hart's Tongue (*Scolopendrium vulgare*) is again quite different in form, the frond being straight and undivided, as it is called *linear*. Indeed, so variously are the leaflets of the different species of Fern cut and arranged, that it would take too much space to enumerate them.

But though many species of Fern may be discriminated at first sight by the form of the leaf, the growth, &c., it is by the venation, and the arrangement of the fructification, that their families and species can alone be determined. The seeds of Ferns are not preceded by any visible flower. They are generally produced in the back of the frond in capsules, called thecæ, which are clustered together in little masses situated on the veins at the division of the fronds, or on their margin, and frequently under a white membranous substance which looks like the cuticle of a frond, and is called the *Indusium*, though this is sometimes wholly deficient.

This arrangement of the fructification on the back of the frond seems universal in all the families of the *annulatæ*, among British Ferns, with one exception, that of the *Hymenophyllaceæ*, in which the thecæ are attached in a receptacle situated on the margin of the frond; but as there are but three species belonging to this family, and these of rather rare occurrence, we need not here enter into any minutæ concerning them.

A few words on the fructification of the other division of the Fern tribe, the *Exannulatæ*, and our review of general characteristics will be ended.

The reader will remember that the distinction between the *Annulatæ*,

and the *exannulatæ*, is, that the former are provided with an elastic marginal ring, to assist in dispersing the seeds from the thecæ which those rings enclose, and the latter are devoid of that appendage. Plants of this latter division have their thecæ in a spike, either branched or clubbed, and attached, in some species, to a separate frond, in others terminating the leafy frond. Of such arrangement as the last named is that noble plant, whose spikes of fruit we have spoken of as surprising our wanderers in the early part of this paper; it is the *Osmunda regalis*, commonly called the



THE FLOWERING FERN.

“Flowering Fern.” “The apex of the frond of the *Osmunda*,” says Newman, “is composed of a complete cluster of spikes; these spikes correspond to *pinnule*, of which only the mid-vein and a slight marginal ring is present, and to each of the lateral veins is attached a nearly-spherical mass of thecæ: these spherical masses entirely supersede any leafy portion in pinnæ so converted. Frequent instances, however, exhibit the base of a pinnule in a leafy or barren, whilst the apex is in a fertile state.” It is, however, not every leaf that thus terminates; some are barren fronds, and they preserve their leafy appearance quite to the summit of the leaf. Of the first division are the Moonwort and the Adder’s Tongue; in the former a little branched spike of fruit is joined to a pinnate frond, these two members forming the whole plant, which is not in general more than from four to six inches in height. The latter consists of a straight spike of fruit issuing from the interior surface of the frond at its base, usually longer than

the leafy part, and bearing the thecae in a double longitudinal row. "When the seed is ripe, these thecae open transversely, gape widely, and suffer the seed to be scattered by the winds."

The fructification of all the Ferns of the division *Annulatæ* is composed of the same parts, and arranged on the same principle, yet in some of the details each family, and indeed each species, differs from the rest. We will take a specimen of Hart's Tongue (*Scolopendrium vulgare*) as an example,



THE HART'S TONGUE.

and examine its different parts. After the leaf has grown a little time, you will find a number of pale narrow bands appearing at pretty equal distances on some of the veins, and following their direction. After a time the skin of the leaf where these bands are separates from the green part below, and soon after something raises up the skin, and at last bursts through it, dividing the skin into two parts, one edge of which remains attached to the leaf: the cause of this is a multitude of brown seed-like grains closely crowded together, and forming a ridge. This skin is called the "*Indusium*," the ridge, "*Sorus*," the grains, "*Thecae*;" and the only means of propagating itself which the plant possesses lie in these thecae. The theca is not itself a seed; it is a hollow body containing a quantity of minute oval grains called *spores*, which are analogous to seeds, and in which the reproductive power is invested. The power which Ferns possess of multiplying themselves is almost incredible. The Hart's Tongue, which is by no means a large plant, or possessed of a peculiarly high power of reproductiveness, bears on each leaf (according to Lindley) about 80 sori. Each of these consists of from 3,000 to 6,000 thecae, each theca containing about 50 spores; so that by a moderate calculation a single leaf of the plant may produce not less than 18,000,000 of young plants.

I have endeavoured to make this slight sketch of the general and leading characteristics of the Fern tribe as simple as perspicuity would allow; still I am conscious that, to many who have no previous knowledge on this very attractive subject, much that even this short statement contains may seem difficult to understand (though I hope these difficulties may disappear after a few minutes' careful consideration and examination); whilst at the same time I am aware that to those who have made this interesting branch of

the vegetable creation their study, it will be evident that I have given but a barely-rudimentary account of the structure of the tribe, and left out much which, but for the fear of confusing my subject, I should have said. I hope, however, that these few elementary hints may suffice to enable any one who reads them with attention to know a Fern when they see it—a degree of knowledge to which, as I have before said, many who are capable of feeling sincere interest in the works of God, as displayed in the inanimate creations, have not yet attained.

In the northern parts of the world, Ferns are green leafy productions, which die down to the ground every year, some yielding sooner than others to the influence of the seasons, but all being renewed from the base of the plant annually. In tropical countries, however, this is not the case; they acquire real trunks, resembling palms, and often rise to the height of from 40 to 50 feet or more, without a leaf. Then they throw out masses of the most graceful foliage, which wave like feathers on the air, their leaflets being of the most exquisite form and regularity of arrangement. Many of these tree Ferns are of great interest, both on account of their beauty and also of peculiarities in their structure. One of them, *Aspidium Barometz*, has formed the groundwork for many fables, and ignorant people have been induced to believe that, in the deserts of Scythia, creatures, half animal, half plant, have been produced. This deception has been contrived by cutting off all but a small portion of the stem of a woolly stalked species, and turning it upside down, when it presents much the appearance of a small animal. It has been called "The Scythian Lamb;" and Loudon tells us that the belief in its animal nature has been increased by the circumstance that the colour of the juice of this plant is of a rich blood colour, which soon becomes thick by exposure to the air.

In the carboniferous strata of England and elsewhere, are found fossil Ferns of arborescent kinds, such as do not now exist, and of immense magnitude, some of them appearing to have reached the height of more than 80 feet. The fructification of these extinct species, as well as of the arborescent Ferns now existing, is arranged on the same principle as that of our smaller species.

At a future opportunity we hope to offer to our readers a few remarks on the appearance, situation, &c., of some of the different individuals of this tribe which are to be found in Great Britain, and also to give a few hints on the construction of wood cases for the purpose of window cultivation, and of the management of a Fernery; but for the present we must desist, as our space forbids our extending the limits of this paper.

CHRISTMAS IN THE NORTH OF GERMANY.

THERE is a Christmas custom here which pleased and interested me. The children make little presents to their parents and to each other, and the parents to the children. For three or four months before Christmas the girls are all busy, and the boys save up their pocket-money, to make or purchase these presents: what the present is to be is cautiously kept secret, and the girls have a world of contrivances to conceal it,—such as working where they are out on visits, and the others are not with them; getting up in the morning before daylight, and the like. Then, on the evening before Christmas-day, one of the parlours is lighted up by the children, into which the parents must not go. A great yew-bough is fastened on

the table at a little distance from the wall ; a multitude of little tapers are fastened in the bough, but so as not to catch it till they are nearly burnt out, and coloured paper hangs and flutters from the twigs. Under this bough the children lay out in great order the presents they mean for their parents, still concealing in their pockets what they intend for each other. Then the parents are introduced, and each presents his little gift ; and then bring out the rest one by one from their pockets, and present them with kisses and embraces. Where I witnessed this scene there were eight or



nine children, and the eldest daughter and mother wept aloud for joy and tenderness ; and the tears ran down the face of the father, and he clasped all his children so tight to his breast, it seemed as if he did it to stifle the sob that was rising within him. I was very much affected. The shadow of the bough and its appendages on the wall, and arching over on the ceiling, made a pretty picture ; and then the raptures of the very little ones, when at last the twigs and their needles began to take fire and snap ! Oh it was delight for them ! On the next day, in the great parlour, the parents lay out on the table the presents for the children. A scene of more sober joy succeeds, as on this day, after an old custom, the mother says privately to each of her daughters, and the father to his sons, that which he has observed most praiseworthy, and that which was most faulty in their conduct. Formerly, and still in all the smaller towns and villages throughout North

Germany, these presents were sent by all the parents to some one fellow, who, in high buskins, a white robe, a mask, and an enormous flax wig, personates Knecht Rupert, the servant Rupert. On Christmas-night, he goes round to every house and says that Jesus Christ his master sent him thither; the parents and elder children receive him with great pomp of reverence, while the little ones are most terribly frightened. He then inquires for the children, and according to the character which he hears from the parents, he gives them the intended present as if they come out of heaven from Jesus Christ. Or, if they should have been bad children, he gives the parents a rod, and in the name of his master recommends them to use it frequently. About seven or eight years old the children are let into the secret, and it is curious to observe how faithfully they keep it.—
COLERIDGE.

 HYMN ON THE NATIVITY.


THIS is the month, and this the happy morn,
Wherein the Son of Heaven's eternal King,
Of wedded Maid and Virgin Mother born,
Our great redemption from above did bring;
For so the holy sages once did sing,
That he our deadly forfeit should release,
And with his Father work us a perpetual peace.

That glorious form, that light insufferable,
 And that far-beaming blaze of majesty—
 Wherewith he wont at heav'n's high council table
 To sit the midst of Trinal Unity—
 He laid aside ! and, here with us to be,
 Forsook the courts of everlasting day,
 And chose with us a darksome house of mortal clay.
 Say, heav'nly Muse ! shall not thy sacred vein
 Afford a present to the Infant God ?
 Hast thou no verse, no hymn, or solemn strain,
 To welcome him to this his new abode,
 Now while the heav'n, by the sun's team untrod,
 Hath took no print of the approaching light,
 And all the spangled host keep watch in squadrons bright ?
 See how from far upon the eastern road
 The star-led wizards haste with odours sweet :
 Oh ! run, prevent them with thy humble ode,
 And lay it lowly at his blessed feet ;
 Have thou the honour first thy Lord to greet,
 And join thy voice unto the angel choir,
 From out his secret altar touch'd with hallow'd fire.—MILTON.

 CHRISTMAS.

So now is come our joyful'st feast ;
 Let every man be jolly,
 Each room with ivy leaves is drest,
 And every post with holly.
 Though some churls at our mirth repine,
 Bound your foreheads garlands twine,
 Drown sorrow in a cup of wine,
 And let us all be merry.
 Now our neighbours' chimneys smoke,
 And Christmas blocks are burning ;
 Their ovens they with baked meat choke,
 And all their spits are turning.
 Without the door let sorrow lie,
 And if for cold it hap to die,
 We'll bury 't in a Christmas pie,
 And ever more be merry.
 Now every lad is wondrous trim,
 And no man minds his labour ;
 Our lasses have provided them
 A bagpipe and a tabour.
 Young men and maids, and girls and boys,
 Give life to one another's joys,
 And you anon shall by the noise,
 Perceive that they are merry.
 The poor men to the justices
 With capons make their errants,
 And if they hap to fail of these,
 They plague them with their warrants :
 But now they feed them with good cheer,
 And what they want they take in beer,
 For Christmas comes but once a year,
 And then they shall be merry.

The client now his suit forbears,
 The prisoner's heart is eased ;
 The debtor drinks away his cares,
 And for the time is pleased.
 Though other's purses be more fat,
 Why should we pine or grieve at that ?
 Hang sorrow ! care will kill a cat,
 And therefore let's be merry.

Hark ! now the wags abroad do call
 Each other forth to rambling ;
 Anon you'll see them in the hall,
 For nuts and apples scrambling.
 Hark ! how the roofs with laughter sound,
 Anon they'll think the house goes round,
 For they the cellar's depth have found,
 And there they will be merry.

The maidens with their wassail bowls
 About the streets are singing ;
 The boys are come to catch the owls,
 The wild mare in is bringing.
 Our kitchen boy hath broke his box,
 And to the dealing of the ox,
 Our honest neighbours come by flocks,
 And here they will be merry.

Now kings and queens poor sheepcoats have,
 And mate with everybody ;
 The honest now may play the knave,
 And wise men play the noddy.
 Some youths will now a mumming go,
 Some others play at Rowland-bo,
 And twenty other games boys mo,
 Because they will be merry.

Then, wherefore, in these merry days,
 Should we, I pray, be duller ?
 No, let us sing some roundelays,
 To make our mirth the fuller :
 And while we thus inspired sing,
 Let all the streets with echoes ring ;
 Woods and hills, and everything,
 Bear witness we are merry.

George Wither, the author of the preceding poem, descriptive of the mode in which Christmas was kept in the sixteenth century, flourished during the period of the civil wars. In the year 1613 he published a satire, which giving offence to the Government, caused his arrest and committal to prison. When the war broke out between the Parliament and Charles I., Wither took the popular side, and as one of Cromwell's major-generals was appointed to keep watch over the Royalists of Surrey ; he profited largely by his position, but at the Restoration he was deprived of the possessions he had obtained, and was for his writings again thrown into prison, from which he was released four years before his death. The merry song from which we have given large extracts ill accords with the Puritan mode of thought and life. It may have been written previously to the period of his taking an active part in the civil wars ; but even if not, it is an instance out of many others that the natural character will break through the bonds which party and fanaticism have thrown around it.

THE GOLD DIGGINGS.

THE following extract from a letter just received from a lady gives rather an uncomfortable picture of the state of society in the Golden Age:—

“ Geelong, Melbourne, May —, 1852.

“ The discovery of gold here has completely turned the brains of all the lower order of the community, and has rendered this country anything but desirable for a residence; scarcely a servant to be had, and the few there are asking enormous wages. Nearly all the working class are successful at the diggings, but we seldom hear of gentlemen doing any good. We have known of several working men who have realized upwards of 100*l.* in a week or two, and consequently there are no men satisfied with quiet employment, even at the highest rate of wages. We are amongst the class who feel all the inconvenience, and I may say misery, of the gold mania: we can scarcely get anything done for us, even at an enormous expense, and have then to bear with intolerable airs and impudence. In fact, the diggers term themselves ‘the new aristocracy,’ and say the ladies will soon have to wash and cook for them. Men are now getting from 40*l.* to 80*l.* a year wages, and women (who will scarcely do anything) from 25*l.* to 40*l.*; washing is 7*s.* a dozen in Melbourne, and as much as 5*s.* 6*d.* everywhere; and a woman charges 5*s.* 6*d.* for a day’s work. Provisions are all dear; our population has already been doubled, from the people flocking from Adelaide, Van Diemen’s Land, and Sydney; and we now expect multitudes of people from England, &c. There are now upwards of 40,000 located at the Mount Alexander diggings, about eighty miles from Melbourne, and the road is occupied by a constant stream of drays, &c., going and coming. The population of Brighton is about 1,600, and I think every working man of the number has been to the diggings, and nearly all been more or less successful. The smallest sums made in about a month have been 50*l.*—some have made 500*l.* I do not think any of the working men in Brighton will ever settle down quietly again: some drink to excess when they come home for a few days, and the love of gain grows upon all, male and female, most visibly. Those of whom we hoped better things seem carried away, and ‘the root of all evil’ evidently gains the ascendancy in their hearts: those who were once quiet working people now think industry beneath them, and fancy themselves too delicate to work: continually, if we apply to women to wash, or clean the house, they now say their husbands forbid them to work, as they may injure their health! These are the wives of the successful gold diggers; therefore they mostly gossip, drink, and dress to excess, during their husbands’ absence. Things are in a far worse state than they have ever been here as regard getting anything done; and out of five servants, we have now only one, and find it impossible to replace those that have left. It is with great difficulty we get our clothes washed: a servant, who married from our house, and is living at Brighton, and whose husband is successful at the diggings, condescends, as a great favour, to come for a day sometimes, for the highest rate of wages; and then we have to send some to be mangled, and some to be ironed, elsewhere, and perhaps the women who engage to do it will not do it, when we have had the trouble of sending the things, but coolly send word they are going to a party, &c., &c. All these miseries continually draw forth regret at the horrible gold discovery; but I must not give you the ‘gold fever’ by dwelling longer on this disagreeable subject.”

THE
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A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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THE VALLEY OF ROCKS.



To quote the words of a lively writer, "The sun rose as brightly as if no pleasure party had been arranged," on the morning when we visited Linton the first time; but this was matter of hope rather than of certainty when we began our journey, as, in order to get back to Ilfracombe the same day, we were admonished to rise with the dawn and set out at once. To the generality of slothful mortals the dawn of a summer's morning is almost an unknown sight; to us it was sufficiently rare to have a great charm, and when at length the orb of day shone forth in his glory, we were almost ungrateful enough to exclaim with the poet,

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whether some lingering disease had gradually wasted away her strength, and prepared her mother by degrees to lose her, or whether some of the many feverish and sudden attacks to which childhood is so liable took her away without much warning, it was all the same now to the poor mother, whose heart was bowed down, and, perhaps, her temper soured, by the withering of her gourd, under whose shadow, doubtless, she once hoped to spend her declining days in peace, when the toils and strength of life had passed away. We looked at our own little treasured one sitting at our feet (pulling to pieces the flowers with which the driver kept him well supplied, when obliged to relieve the horse by walking up and down the steepest hills), and we endeavoured to picture to ourselves how we should feel if similarly bereaved; and we could not forgive ourselves for having, though unwittingly, laid bare such a wound yet unhealed.

The journey, until we approached our destination, was not particularly interesting. The road lay for the most part over an elevated succession of downs, too far inland to permit more than an occasional distant peep of the sea, with scarcely any trees, and with little of that varied charm which cultivation and the presence of man's abodes impart to the landscape. Wild sweeping slopes, grazed by flocks of sheep, and here and there by flocks of geese, formed the staple for miles; but the pink and purple bells of different species of heath, just opening to summer, and the golden-flowered thickets of furze upon the heights, made even these attractive. And as we saw the timid rabbits popping in and out, or admired the industrious bees trooping from flower to flower, or watched the tiny blue butterflies dancing in the air, and playing in parties as they flew, our hearts could not help beating with a quickened enjoyment in sympathy with happy nature.

We had the road pretty much to ourselves:—here and there a cottage or two, with the usual accompaniment of white-headed children, and now and then an empty cart passed us, with its driver standing in it, reins and whip in hand, driving full speed down hill; which seemed to be one of the fashions of the country, and amused us by its oddity.

Here is a delightful grove of trees on the right, again tempting us to wish this were our goal; and not far off is a stone water-trough to catch the little streamlet, and afford refreshment to the weary way-worn beast, calling to mind the inspired words of the Psalmist, "He shall drink of the brook in the way, therefore shall he lift up the head." We thought, how happy to be the means of adding, in ever so trifling a way, to the comfort of others, and of lessening the amount of need and weariness! Perhaps the hand that placed that trough, and the head and heart that thought of it, have long mouldered in the dust; and yet, probably, no day passes without either man or beast having reason to be thankful for that little basin far from any dwelling. We asked ourselves, What are we doing or what have we done or planned, for the good of others, that either tells on our contemporaries, or will cause our names to be blessed when we have passed away from the present scene?

But we approach the end of our journey; and again the hills are precipitous, the lanes narrow and bowery, and the road winding, the *coup d'œil* every now and then causing us to exhaust our vocabulary of adjectives, expressive of admiration. Old-fashioned, tumble-down cottages, a greenish moss-covered mill that seemed past work, betokened the vicinity of an inhabited district. The old mill, likewise, was a silent hint to look out for water; and soon the shy and beautiful stream, clothed with verdure

to its very brink, was seen at intervals, sparkling in the sunbeam and brawling over the stones that obstructed its path. Lower and lower grew the stream, or else higher our road; for deeper grew the valley we looked down on, darker the foliage, larger the trees—more lovely everything. At length there could be no doubt that we were near our destination, for parks and enclosures were alternately on our right or our left, till the old, ivy-clad village church, and other signs of country life, warned us to collect our scattered paraphernalia, and prepare to begin the business of the day.

Thus at length we find ourselves at Linton. "What must we see?" Beauties enough are enumerated to employ a week, but we must begin with the famous Valley of Rocks; and those who cannot walk in the heat, must ride on the donkeys which in such places are always waiting about the inns.

Our path gave us a full view of the Bristol Channel, which lay far, far beneath our feet; the road having been cut around almost perpendicular hills and rocks, where one false step of our sure-footed beasts would have carried us far beyond human help, or the need of it.

Our guides assured us the animals knew what they were about, and would take care of themselves and us.

"Do they never have an accident?" one of us inquired.

"Why, ma'am, they're very careful and sure; but I can't say they never do meet with a mischance. A donkey did tumble down this very cliff. He had gone along a narrow path that led nowhere, and was not wide enough to let him turn when he came to the end. He tried to 'right about face,' as they say; but lost his footing and his life, and his mistress lost a good servant."

An ass that had been following us for some time attracted our curiosity. He was a fine beast, almost as big as a pony, and full of the antics and capers of freedom.

"Ah! you're looking at the wild donkey, sir. He belongs to the lord of the manor, and always lives here. Any of the donkey-women have permission to make use of him, if they can get hold of him; but it's mighty little they can make of the privilege. He follows parties about for miles, just as he's now following you, but he takes good care to keep his nose out of the halter."

As the good woman said this, she administered a hearty whack to each of her own steeds, with a "Go on Flower! get along, Buffalo!" as if to admonish them that such fantastic pranks lay not in their province.

A VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—No. VII.

THE COLONY OF NEW SOUTH WALES.

It was on the morning of the 26th day of January, 1788, that the first settlement in this the oldest colony in Australia was founded under Captain Phillip after he had quitted the less favourable station at Botany Bay. "The spot chosen for encampment," says Colonel Collins, in his interesting account of the settlement, "was at the head of the cove near the run of fresh water which stole silently along through a very thick wood, the stillness of which had then, for the first time since the creation, been disturbed by the rude sounds of the labourer's axe and the downfall of its ancient inhabitants; a stillness and tranquillity which from that day were to give place

to the voice of labour, the confusion of camps and towns, and the busy hum of its new possessors." In the evening of the day the whole of the party that had come round in the *Supply* assembled at the point where they had first landed in the morning, and on which a flagstaff had been erected and a union jack displayed; the body of marines that were with them fired several volleys in honour of the occasion, startling from the surrounding woods whole flocks of gorgeous birds, and making the forests echo with a reverberatory welcome; while between each peal the governor and officers drank the healths of His Majesty and the Royal Family, and success to the new colony, accompanied by the shouts of the whole party. On every succeeding 26th of January from that period the day has been uniformly observed with rejoicings; and each anniversary has shown a continued realization of the good wishes of that first little party for the prosperity of the colony.

A lapse of sixty-four years has shown a wondrous change. It has been said by Count Strzelecki that "the Anglo-Saxon reproduces his country wherever he hoists his country's flag;" and certainly in no other place in the world is this more evident than at the metropolis of New South Wales; for while the pioneers of civilization, leaving behind them the pleasures and comforts of home and kindred, landed from their vessel to take possession of a newly-discovered country on the other side of the globe, tenanted by the wild and savage inhabitants of the woods, and the capabilities of which were not merely undeveloped but absolutely unknown; the emigrant of the present day on arriving at Sydney is at once introduced to a flourishing city, inhabited by a civilized people, in a country where every necessary and luxury of life are produced and available in abundance.

The voyage from England to Australia, averaging from three to four months, is now so much a matter of course, and so proverbially safe, that no person in undertaking it makes any calculation of its dangers; it was not, however, so considered by those who embarked in the first fleet, for Colonel Collins, in his record of that voyage, says, "Thus, under the blessing of God, was happily completed in eight months and one week a voyage, which, before it was undertaken, the mind hardly dared to contemplate, and on which it was impossible to reflect without some apprehension of its termination." It was with feelings such as these that the first European navigators of Port Jackson entered the Heads and broke the silence and solitude that had reigned in those distant regions since their creation; and the following lines, descriptive of another locality, might not inaptly have been applied to the scene that was then presented to their view:—

"All is as still as death! wild solitude
Reigns undisturb'd along the voiceless shore,
And every tree seems standing as it stood
Five thousand years ago. The loud waves' roar
Were music in these wilds! The wise and good,
That went of old as hermits to adore
The God of nature in the desert drear,
Might sure have found a fit sojourning here."

The rocks, forming the coast in the neighbourhood of Port Jackson, and the shores of the bay itself, consist entirely of sandstone, extending in nearly horizontal layers south, as far as Illawarra, and north as far as Newcastle. At these points the sandstone is broken through by the intrusion of trap-rock, forming the Illawarra Mountain on the south, and Nobby's Island, near Newcastle, on the north. The whole of the intervening coast-line

forms an abrupt mural escarpment, rising in many places, as at the South Head, to an elevation of from 250 to 300 feet. The only interruptions to the continuity of this line are those of Port Hacken, Botany Bay, Port Jackson, Broken Bay, Tuggerah Beach, and Reid's Mistake. These inlets have all the same general physical aspect, consisting of a series of indentations, or ooves, bounded by a succession of terraces of sandstone (apparently five in number), resembling in form ancient sea-beaches; the rocks at the foot of each terrace being water-worn and excavated. The supposition that these terraces are the remains of ancient sea-beaches receives confirmation from the fact that at the base of many of them are found large deposits of sea-shells, identical with those inhabiting the sea below. Many of these shells, too, are almost microscopic in size, and exist in such quantities; and are so widely distributed, as to set aside the suggestion of their having been brought to their present locality by the aborigines of the country.

Geology, taking a more philosophical view of the fact, demonstrates that these shells have been deposited by the waves of the ocean, and that the land on which we now dwell has undergone a series of upheavings, equal in number to the terraces or sea-coasts still visible in the formation of the rocks. This view of the case will appear novel only to those who have never turned their attention to geological phenomena, for the features of the country around us are in perfect harmony with what is observed on other parts of the earth's surface. The whole of the west coast of South America, extending from the base to the summit of the Andes, consists of a succession of such ridges as we find on the shores of Australia; and the same phenomenon is observable in innumerable other instances. On the steep sides of Snowdon, in the valley of Glen Roy, in Scotland, forming the roads of Fingal, on the coast of Norway, and on the shores of Italy, we find abundant proofs that even the firm-set earth on which we tread is not exempt from the vicissitude and change to which all created things are subjected.

"Of chance or change, oh! let not man complain,
 Else shall he never, never cease to wail;
 For, from the imperial dome, to where the swain
 Bears the lone cottage in the silent dale,
 All feel the assault of Fortune's fickle gale:
 Art, empire, earth itself to change are doom'd;
 Earthquakes have raised to heaven the humble vale,
 And gulfs the mountain's mighty mass entomb'd:
 And where the Atlantic rolls wide continents have bloom'd."

The sandstone of Sydney contains no fossil animal remains by which its geological age can properly be ascertained; and it will require much labour and careful examination to determine its exact geological position in relation to European deposits. From the examination of rocks found associated with it at Illawarra, and on the Hunter, and from their fossil contents, it would appear to be contemporaneous with the older Silurian deposits of Europe. There is, at all events, abundant evidence to prove that New South Wales is among the oldest parts of the globe; contrary to the fancy of some philosophers, who, from the novelty observable in the forms of its plants and animals, conceive that its existence must have been posterior to, and independent of the rest of the world.

When seen from a distance, the Australian coast wears a very unpromising aspect. Composed of a line of sandstone rocks,—sculptured in many

places, by exposure to the weather, into the most grotesque and fantastic shapes, and partially clothed with stunted evergreen shrubs, alternating with patches of white sand,—the tame coast-line gives no promise of the beautiful scenery it conceals, and speaks of nothing but barrenness and desolation to those who have left behind them the refreshing luxuriance of English scenery, or the wilder landscapes of Scotland and Ireland. But the eye which has been jaundiced by looking so long on the unvarying circle of the dark blue ocean—"unchangeable save in its wild waves' play"—longs for a green spot on which to repose; and the heart, panting for freedom from its floating prison-house, bounds forward to welcome the promised land. The prospect improves as we approach the Heads. The high precipitous rocks, frowning defiance to the waves of the Pacific, which break in whiteness at their base, arrest the eye of the stranger by their grandeur and extraordinary excavations; and the lighthouse, whose cheering beam had shone like a meteor for leagues over the waters, now rises in its beauty on the brow of the rocky coast flanked by Macquarie Tower—a building which, like many other of the works of man, appears to have been erected more for ornament than use.

The pleasing intelligence that an English vessel had entered the Heads has been known for some time in Sydney, although she has not yet come within sight of the city; for the pilot is on board, and he has spoken, in the language of his profession, to the signal post on the South Head, which has, in its turn, addressed itself to the citizens of Sydney and the inhabitants of Paramatta. Conjecture is afloat as to the name and cargo of the vessel. Some are expecting friends, others merchandise, but all entertain the hope of a letter from home. It is, accordingly, no wonder that the signal of a vessel from England is always a welcome sight to natives of that country, or their descendants now dwelling at the antipodes of their fatherland. But, while all is flutter and excitement in Sydney, the vessel under a favourable breeze is pursuing the even tenor of her way, "walking the waters like a thing of life," and bearing in her bosom the heralds of hope to some—of misfortune and distress to others. She has, likewise, on board some anxious hearts throbbing for a sight of the long-looked-for city. After all the dangers, and privations, and disappointments usually attending a long voyage, none but those who have felt can conceive the delightful sensations produced by the symptoms of a near approach to the termination of their journey. Within the last few hours what a variety of conflicting feelings have agitated the breasts of the inmates of that vessel! Before the coast was visible messengers had come to bid them be of good cheer, for the expected shore was at hand. The sea-weed, and broken branches of trees, drifting past; the chirping of a bird from one of the vessel's yards; the flutter of a tiny butterfly, sporting its painted wings in the sunbeams, flashing among the cordage like a pencil of rainbow-light, but preferring a return to its native woods, to the pleasure of being impaled on a needle for the gratification of the curious—had all spoken eloquently to these wanderers o'er the deep, of the proximity of the country. At length the delightful sound of "Land! land!" had burst on the ear, like the voice of him that bringeth glad tidings of great joy; and the first faint glimpse of the coast floating in the far distance, like a cloud on the horizon, had been welcomed with as much pleasure as was experienced by the inmates of the Ark, while resting on Mount Ararat, when they received the olive-branch from the dove, in token that the waters had assuaged from the face of the earth, and that the dry land was beginning to reappear. "On, on the

vessel flies:" the glorious sun of Australia is high in the heavens; the outline of the coast becomes clearer every moment. The breeze that now fans their cheeks comes loaded with the fragrance of the woods. The deck is crowded with eager, delighted faces, all turned in one direction—all actuated by one wish—all anxious once more to feel the ground beneath them; once more to look on the pleasing diversity of wood, and mountain, and valley, to which they have so long been strangers. Even the dumb animals on board seem to partake of the common excitement, and neigh, or low, or bleat, to express their joyful welcome. But the vessel, having at last entered between the Australian Pillars of Hercules, is now rapidly gaining on Bradley's Head, and in a few minutes the city of Sydney in all its beauty will be exposed to sight.

Let us, however, take a glance at the harbour through which we are passing. There does not, perhaps, in any part of the world, exist a more beautiful, extensive, and commodious harbour than Port Jackson; and no person, however destitute of what is called sentimental feeling, can look on it without emotions of pleasure. The magnificent sheet of water spread out before us, and reflecting on its unruffled surface the hues of an Australian sky—

"So calm, so clear, so purely beautiful;"

the great variety of stately vassels riding at anchor, or arriving or departing; the number of small colonial craft, and sailing-boats and wherries, plying in all directions over its surface; its romantic wooded borders, presenting the appearance of promontories, creeks, and bays, and spotted with white cottages rising gracefully among the trees; the wind-mills, and the castellated and baronial-looking buildings which crown the green heights of Woolloomooloo; and the new Government-house, glittering in the sunbeams, like a palace of white marble: altogether exhibit a picture to the eye of a most imposing and delightful character. On entering the Heads for the first time, the stranger must gaze with unbounded satisfaction on the scene. To him who has for several consecutive months been traversing the mighty ocean, gazing day after day on the same appearance of sea and sky—"with the blue above and the blue below," and little to vary the monotony of the view—the sight of land must always be welcome. He hails its first dim outline on the horizon as the reappearance of a long-lost friend. The most barren rock in the ocean, though tenanted only by the solitary sea-bird, would be welcomed with delight; but when, instead of a barren rock, the immigrant to New South Wales enters the land-locked harbour of Port Jackson, and, on doubling Bradley's Head, is introduced at once to one of the most magnificent scenes on the globe, his feelings will more easily be conceived than described. It is impossible to tell what may have been the emotions of others, but our own first feelings of pleasure at the beauty of the scenery among which it was to be my lot for a time to reside, were considerably increased by association, from the strong features of resemblance which the harbour presented to some of the lakes of Scotland formerly visited with delight. All men, however different in temperament, rank, or profession, must gaze on Port Jackson with pleasure. The merchant beholds it with confident assurance that it must for ever constitute Sydney the metropolis of New South Wales; and the philosopher rejoices that the wonderful capabilities of such a harbour have been discovered and taken advantage of by the most enterprising nation in the world.

CATCHING WILD DUCKS IN EGYPT.



THE hardy Fellahs of Upper Egypt are famous for their aquatic exploits in the winter season, when some of them remain up to their necks in water for very long periods together, occupied in snaring the wild ducks. The method they adopt is very peculiar, and at the same time is very ingenious. Wild gourds, which grow to an enormous size in the East, are gathered by these Fellahs before they have arrived at a state of maturity; in the choice of these they are very particular, selecting the largest and such as are entirely free of defects; these are then carefully scooped out, leaving an orifice on one side, which enables the Fellah, without any inconvenience, to insert the whole of his head into the cavity, two large eyelid holes are then cut at corresponding angles with the wearer's eyes, and besides these the top is liberally drilled with air holes, so as to facilitate respiration. The gourd is then hung up to dry in the shade, and the peasant, or Fellah, patiently awaits the first indications of winter, or until "the heavy rains which fall in that season have filled the pools with water," then swarms of wild ducks and other water-fowl take an inland flight, and the Fellah, seeing these pass overhead, girds up his loins and takes his staff in hand, and, provided with several of these gourds and a small stock of bread and cheese and tobacco, he starts for the lakes and swamps in the interior, mindful also to carry with him a famous strong net-work sack, which is to contain the booty he hopes next morning to expose for sale in the markets of the city, or to hawk about from house to house, so as to realize a few piastres. After a good sturdy walk of a couple of hours' duration or so, the Fellahs (for there are generally two of them, and they hunt in couples) light upon a spot which

combines all the advantages they are seeking for—plenty of water well screened by bulrushes and bushes, a few shady trees, and the depth not so great as to endanger a man's life. Stealthily they creep along under cover of the bushes, peering out ever and anon from amongst these to discover any signs of the sought-for ducks: by-and-by they come upon a whole fleet, manœuvring about like so many ships-of-the-line, and the sight causes them quite a palpitation of the heart. Stealthily they recede again from the spot, and remain in ambush, consulting like two great generals the best plan and the best side of attack. Great care must be taken not to alarm the birds, for that would be a death-blow to that day's expectations. The first thing to be done is to put out feelers to test the courage of the duck-squadron, and, at the same time, to accustom them to look upon what may ultimately work out their entire extirpation, as harmless missiles, weeds, and rubbish, carried by the eddy to and fro. To this intent, they watch how the tide flows; for, in these large sheets of water, the ripple sets with the wind. Having satisfied themselves on this point, they stealthily remove to windward of the ducks, and here, carefully ensconced amongst the rushes, the superfluous gourds are brought into action. Twigs from the bushes and large leaves of rushes are cut, and fastened with twine round the orifice of the gourd, so skilfully arranged as to act as outriggers; thus preventing the gourd from capsizing, or filling and sinking. When prepared, these are tenderly launched into the water, and, when once fairly afloat, are pushed off from the shore by aid of the peasant's staff; the wind blows them gently forward, and in the course of twenty minutes or so, the gourds are in the centre of the whole posy of wild ducks. At first their appearance creates quite a sensation amongst the fleet; no fire-ships could cause a greater commotion; the timid amongst the ducks fairly take to wing, and wheel round and round, quacking notes of alarm. Some content themselves with diving out of their reach, but a few of the more hardy keep their ground and quack derision at their frightened messmates. Meanwhile, the gourd floats harmlessly by, and is eventually stranded on the opposite bank: quick in its track, however, follows another gourd, and so on half-a-dozen float by, until the most timid have gained courage, and the ducks swim round them, barely making way for the gourd to pass; and even some few so emboldened as to peck at the berries on the small twigs attached to these gourds. The peasant is now well persuaded that he can venture upon the sport; accordingly he strips to a pair of tight-fitting cotton knee drawers; the gourd is then carefully adjusted on his head by the companion, who remains to watch proceedings: this done, a quantity of rushes and twigs are tied round his throat, and carefully adjusted so as to entirely exclude the shoulders from view. Thus equipped the Fellah creeps to a curve in the lake, where, secluded from the view of the ducks, he enters into the water, moving slowly forward and keeping his body bent up, until he finds the depth suitable for his purposes. He carries in one hand the net sack, the orifice of which closes with strings, much after the same fashion as a lady's reticule; in the other he carries a staff, the better to feel his way and to prevent his getting into too shallow or too deep water. In this way he is often obliged to make a long circuit before he can approach anywhere near to where the ducks are gambolling and feeding to their hearts' content; and he is obliged to move slowly and cautiously, so as to avoid exciting suspicion, and to elude the vigilant watchfulness of the ducks. During this lengthy interval his companion is sitting on the thorns of suspense, watching with intense anxiety the progress

of the gourd, for this is all that he can distinguish of his companion in the muddy waters of the lake. At last he has succeeded, without exciting any suspicion, to wheedle himself right into the centre of the fleet. The staff is firmly held between his knees, the mouth of the sack (which sack is kept down by a weight attached to the bottom of it) is opened, a victim is fixed upon, and the Fellah, steadily moving his hand towards the feet of the deluded duck, suddenly, but without any violent effort, clutches the legs, and almost as expeditiously draws the bird under water; the astonished duck or drake has barely time to give utterance to a quack of alarm, before it disappears under the water; the nearer ducks look on in silent amazement, possibly quite shocked at such indecorous proceedings on the part of a comrade, and surmising what could have induced him to dive in so extraordinary an attitude. However this may be, their surmising is speedily cut short, and their curiosity as quickly gratified, by themselves disappearing, one after another, in the same indecorous fashion as the first duck. The Fellah soon fills his bag, at this rate, and then he retraces his steps as carefully as he came. As there is yet much game in the field, and many ships of the fleet to be captured before nightfall, when he is once safely landed, then the one who has been watching, tries his hand at the game; being first carefully decorated for the occasion by the successful duck-hunter, who simply removes his gourd helmet, and seated amongst dripping branches, pours forth his treasures on the ground. In most of these, life is extinct; but he draws his knife across their throats, to make sure that none may revive and escape; and having done this, smokes a pipe, and contemplates nature through a misty veil of rushes, weeds, and other damp materials. Sometimes the Fellah, whilst in the water, is beset by legions of leeches; but far from discouraging these creatures, he rather approves of their attachment to his body. In the first place, they remove the necessity that would have otherwise existed of his paying a barber for a regular annual blood-letting. In the second, he carefully gathers together the leeches, and hoarding them up in a hollow cane tube, which he cuts for the purpose, he ties a damp rag round the top, and gains a few paras by selling them to some leech-merchant, on his return to his village. It is not always that these duck-hunters are successful; sometimes a false step or a slip occasions them to make a somersault in the water, which not only disturbs their own equilibrium, but puts the whole of the ducks to flight; and then, farewell to success that day.—He may go home as soon as he likes, and see what he can get for his leeches.

The accompanying sketch will give the reader some idea of this very ingenious and grotesque method of securing wild ducks.

ASSYRIA—HUNTING.

THE Assyrian monarch usually appears to have hunted in his chariot, which did not differ either in its structure and appendages, or in the trappings of the horses, from that employed in war. He was equipped, too, as if for battle. The bow and feathered shafts seem principally to have been relied on; but he carried his sword girded at his side, and an axe and a spare bow were as usual in the large quivers on his chariot; the spear also stood in its socket behind. Armed men on foot accompanied their lord, who with round bucklers and short swords attacked the lion, to draw off the attention of the infuriated beast when wounded. The lowness of

the chariot, which was quite open behind, afforded the king no protection against the animal when he came to close quarters, while its narrow limits would in some measure deprive him of advantages which the open ground might afford. The sculptures show that the savage monster, when pierced with the shafts, but not disabled, often rushed to the chariot, and reared up against its open back with gnashing teeth and extended talons; in which case the king had only his own skill, strength, and prowess to look to for defence. But these encounters were familiar dangers; the mighty hunter, thrusting his bossed buckler in the face of his brute assailant, struck the spear-point down his gaping throat, or took advantage of his rampant attitude to stab him to the heart with the two-edged sword.

To attack and overcome a lion in single combat was always esteemed by the ancients a great exploit. The earliest display of Samson's super-human strength was the killing and rending of "a young lion" (that is, a lion in the pride of his youthful prime) with no weapon in his hand (Judg. xiv. 6). David also records his having attacked a lion that came to prey on his flock; he "caught him by the beard, and smote him and slew him" (1 Sam. xvii. 35), and this feat seems to have been performed with no weapons more effective than the rude staves and stones of the field, or, at best, his shepherd's crook. The "slaying of a lion in a pit in a snowy day," by Benaiah, the son of Jehoiada (2 Sam. xxiii. 20; 1 Chron. xi. 22), was an exploit of sufficient magnitude to be enumerated among the deeds that gave to that heroic warrior an honourable place among the worthy triads of King David's mighty men.

Between the colossal bull-cherubs that, back to back, guarded the magnificent portal of the propyleum in front of Shalmaneser's palace, stood, on each side, a human figure of gigantic dimensions, holding a lion tightly down under his left arm, while the efforts of the animal were restrained by its fore paw being firmly grasped in the same hand. Doubtless these are symbolic figures; but the action of the animal under circumstances so peculiar, the attitude, the play of the muscles, and the contortions of the brutal countenance, as with impotent rage it struggles to escape,—are so vividly and correctly rendered, as to force the conclusion that the sculptor had the living reality before him when he transferred the subject to the marble.

With equal truth to nature the sculptures represent combats of lions and other *carnivora* with bulls and similar animals. The side-stroke of the mighty paw, the diverging toes, the exerted talons, the seizing of the prey by the throat, with the head turned on one side; the mode in which the agile



STRANGLED LION.

monster leaps on the back of his prey, crouching up and holding by the flesh of the shoulders with adpressed paws,—are well depicted, and indicate familiarity with the scene.

The conquest of the wild bull by the prowess of the Assyrian king was an exploit deemed worthy, no less than that of the lion, of representation on the sculptured walls of his palace. And let us not think lightly of this herbivorous animal, as if it were a timid or a powerless foe. The figures on the bas-reliefs show that the species was the *Urus* of ancient Europe and not the bison, and a comparison of the representations of the Assyrian artists with a fine figure of the wild *urus* in Griffith's *Anim. King.* (iv. 411) shows how carefully the former attended to minute characters of specific identity. Of this species were the wild bulls of the Hercynian forest, which Cæsar describes (*lib. vi.*) as little inferior to elephants in size, of great strength and swiftness, sparing neither man nor beast, when they have caught sight of him. The race seems to have



WILD URUS.

spread over the whole of Europe and Western Asia, reaching even to Britain: the huge forest that surrounded ancient London was infested with these animals, among other wild beasts; and the race is supposed still to exist in a semi-domesticated state, in the white oxen of Chillingham and some other of our northern parks. The ferocity of the *urus* distinguished it from the bison, even among the Latin poets, and it was esteemed inferior to no animal in savage power. Hence the destruction of one was a great exploit, worthy of heroic fame. Philip of Macedon killed a wild bull in Mount Orbelus, which had made great havoc and produced great terror among the inhabitants; its spoils he hung up in commemoration of his feat in the vestibule of the temple of Hercules. The legendary exploit of Guy, Earl of Warwick, in freeing the neighbourhood from a terrible dun cow, whether historically true or not, implied a traditional terror of the animal; and the family of Turnbull in Scotland are said to owe their patronymic to a hero who turned a wild bull from Robert Bruce, when it had attacked him in hunting.

Pliny's description of the Ethiopian wild bull is sufficiently formidable. "But the most fell and cruel of all others in that country be the wild bulls of the forest, greater than our common field-bulls: most swift, of colour brendred; their eyes gray or blewish, their hair growing contrarie, their mouth wide, and reaching to their eares; their horns, likewise hard

by, moveable; their hide as hard as a flint, checking the dent of any weapon whatsoever, and cannot be pierced; all other wild beasts they chase and hunt; themselves cannot be taken but in pitfalls: in this their wildness and rage they dye, and never become tamed."

The species thus alluded to was not the urus, which never extended to Africa, but was probably the *Bos Caffr*, now one of the most formidable animals of South Africa, and more dreaded than the lion himself. It affords another example of the ferocity that may attach to the bovine race.

Thunberg, in South Africa, had an encounter with a male of this species, which had been wellnigh fatal to him. It killed two of the horses of the party in a few minutes, and drove the traveller and his companions to take rapid refuge in the branches of tall trees, where they remained till the savage beast departed. So tremendous was the brute's assault, that the first horse fell on its back with its feet in the air, and all its entrails hanging out; in which state it lived about half an hour: the second horse was pierced quite through the breast by the bull's horns, which even went through the saddle; it was in a moment thrown to the ground, and died instantly with many of its bones broken.

There are wild species of great size and equal ferocity found in the forests of India, with which the lion and tiger have no chance in combat. Even an old male of the domesticated species is sufficiently formidable when enraged, and many of our readers will recall Byron's fine allusion to the ferocity of the assaulted bull:—

Hark! heard ye not the forest-monarch's roar?
Crashing the lance, he snuffs the spouting gore
Of man and steed, o'erthrown beneath his horn.

Childe Harold, i. 68.

The mode in which the Assyrian kings hunted the urus was closely similar to that employed for the lion, and their arms and equipage were the same. The monarch pursued the quarry in his chariot at full speed, pouring in his arrows, as he urged the race, and aiming particularly at the head, or the heart, just behind the shoulder. Sometimes the animal fell



BULL-HUNT.

pierced with many wounds, and lay prostrate with lolling tongue and glazing eyes; but at others the eager hunter pushed on as the wounded beast relaxed its speed, and driving close by his side, seized one horn in the

moment of passing, and with the hand of a practised *matador*, inserted the point of his sword between the joints of the spine just behind the skull, dividing the medullary cord and producing instant death.

As in the lion-chase, a horseman fully armed and accoutred with bow and spear, helm and shield, led a spare horse caparisoned for the monarch's use, when the nature of the country no longer permitted the progress of the vehicle, or when convenience prompted a change of motion. It was sometimes the duty of the armed horsemen to push on and turn the bull towards the king, when likely to escape by his superior fleetness; and not unfrequently both these with the bow and spear, and footmen with the shield and sword, bore their part in the death of the noble game.

INDUSTRY AND SLOTH.

How many live in the world as uselessly as if they had never been born! They pass through life like a bird through the air, and leave no track behind them; waste the prime of their days in deliberating what they shall do, and bring them to a period without coming to any determination.

An indolent young man being asked why he lay in bed so long, jocosely and carelessly answered, "Every morning of my life I am hearing causes. As soon as I awake, I have two charming persons—their names are Industry and Sloth—close at my bedside, pressing their different suits. One entreats me to get up, the other, to lie still; and then they alternately give me various reasons why I should rise and why I should not. As it is the duty of an impartial judge to hear all that can be said on either side, this detains me so long that before the pleadings are over, it is time to go to dinner."—DODSLEY.

HISTORY OF GUTTA PERCHA.—No. IV.

MANUFACTURE OF GUTTA PERCHA.

It has been already stated that gutta percha, as imported into this country, is unfit for immediate use, and requires purification. The first stage of its manufacture is, consequently, that of removing its impurities and adulterations, and obtaining a pure material for further operation. A large store of gutta percha, in blocks, is always kept at these works, out of which, from time to time, weighed portions are removed for manufacture. The blocks are brought into a part of the building where they are to undergo the first operation, which is one of slicing. This is effected in a very different manner from that of caoutchouc, the soft and comparatively pure state of which admits of its being cut with an ordinary knife. Gutta percha, in the block, is nearly as hard as wood, and is, from its partially gummy or resinous nature, much more difficult to cut in the ordinary manner.

The annexed engraving represents the machine employed in this process. It is a powerful circular wheel, armed with knives. The body of this formidable slicer is made of cast-iron, the rim being very thick, in order to give it the momentum of a heavy fly-wheel, which is rendered absolutely necessary by the great resistance offered to the action of the knives by the material operated upon. This wheel is mounted upon a horizontal axis, on the furthest end of which is placed a pulley, through which, by a gutta percha band led from the driving shaft, motion is communicated to the

machine. The knives are arranged on the other side of the wheel to that shown in the cut. They are three in number, and resemble broad chisels in their shape. They are set in the frame of the wheel at a particular angle, like the cutter of an ordinary plane, so as to throw out the slices of gutta percha on the opposite side to that on which it is presented to their action.



SLICING MACHINE.

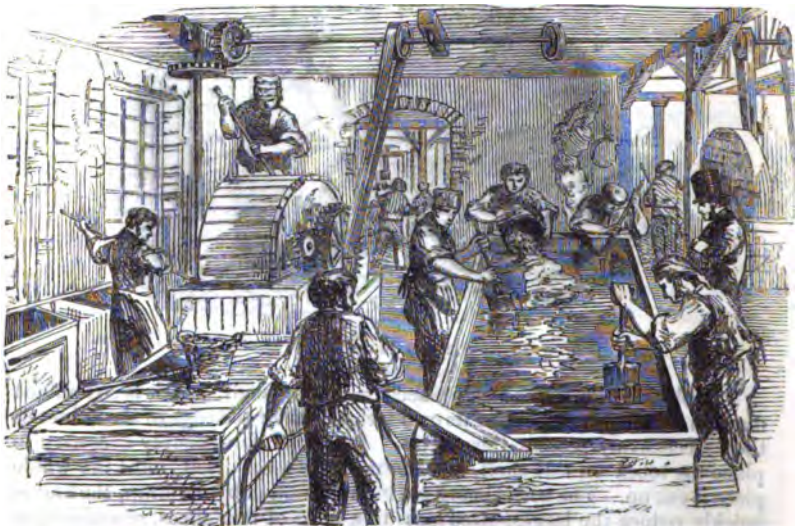
The block of gutta percha is placed on an iron shelf, which is so inclined down as to bring the block, by its own weight, under the edge of the knives as they successively present themselves. It is, therefore, merely necessary to place the block on this shelf, and the machine feeds itself, until the whole piece is cut up. The wheel being set in rapid motion by the strap, the knives quickly reduce the largest-sized mass to a heap of thin slices, resembling as closely as possible large chips of wood. This machine is not altogether without danger, some of the slices flying off with such force as to inflict a very serious blow. One of these pieces is shown in the cut. The knives are also repeatedly injured by the masses of clay and stones which they encounter in the substance of the blocks. They are, however, so secured in the wheel as to admit of being readily removed for the purpose of repair or renewal.



The gutta percha is still in too solid a condition to admit of being at once taken to the cleansing machine. The woody fibre it contains is so held together by the gum as to offer a very intractable mass to any arrangement intended to tear it into shreds, and thus get rid of its impurities. In order to soften it, and thus fit it for further manipulation, it is taken into a part of the factory which is always clouded with steam, and full of noise and clatter. This is shown in the cut. The slices are here placed into large wooden chests, filled with water heated by steam. Here they are left, until by the combined effects of heat and moisture the mass becomes thoroughly softened and fit for the next process.

The next machine we have to describe is called a "devilling engine."

Its principle is by no means new, since in various other arts similar means of minutely dividing and tearing a material into shreds are adopted. The tearing machine is placed over and at one end of a long trough, full of warm water. The gutta percha is removed from the wooden tanks in baskets, and supplied to the machine from the top. In the interior of this machine are toothed iron cylinders, which are made to revolve with great rapidity by a pulley and band connected with the main shaft. The gutta percha, in its softened state, is presented to the operation of these toothed cylinders, and is instantly torn into very minute shreds, which fall into the water below.



THE "DEVILLING" ENGINE, ETC.

Advantage is here very ingeniously taken of the great lightness of the material operated upon as compared with its adulterations. It has been seen that in the preparation of caoutchouc the adulterations, being chiefly clay, are easily washed away in the crushing machine, by a stream of water which plays upon the mass. With gutta percha a different arrangement was necessary. This substance has such a low specific gravity as to float on water with great buoyancy. It so happens, therefore, that when the shreds of torn material are thrown upon the water, all the impurities sink at once to the bottom of the trough, and the gutta percha alone is left floating on the surface of the water. It is now easily removed by shovels, with a bottom like a sieve, which take up the material free of water. It is then placed in baskets.

After passing through the devilling machine the gutta percha is nearly, but not quite, pure. It has now also altered in colour, and has a slight rosy or pinkish hue, of which its brownish-red colour, subsequently assumed, is an exaggerated representation. It appears in the form of a spongy mass, not unlike the clippings of some animal substance, such as leather, only more crisp and elastic to the feel. In order thoroughly to remove any adhering impurity, it is passed once or twice through an abundance of cold

water, and is then taken out and dried in baskets. As yet the substance has little the character of a gum, and presents a striking contrast to the brown, soft, tenacious mass we next meet with. The cut shows gutta percha in three stages:—1st, as raw material; 2nd, as cleansed and divided; 3rd, as rolled into cakes.



When the material is dried and thoroughly cleansed, it is taken to iron chests, the sides of which are double, in order to admit of their being heated by steam. Here it leaves its crisp character, and becomes a soft but incoherent mass. In order to render it tenacious and consistent, and thus fit for the manufacture of various objects, it has next to be subjected to the operation of the masticating machines.

Several rows of masticating machines are arranged horizontally on the floor-level. They resemble, in some respects, those used for the manufacture of caoutchouc. Each machine is heated by steam, and consists of a cast-iron cylinder, with a moveable lid, and a central masticator, in the form of a solid axis of iron, which is made slowly to revolve. A quantity of the softened gutta percha is taken by the workmen, and the lid of the masticating engine being removed, the material is forced into it. The lid is then fastened down by an iron bar, the masticator is made to revolve, and steam is turned on to the cylinder. Under the combined effects of pressure and heat, the mass soon begins to assume a consistent character. The slow but powerful revolutions of the central masticator compress it so violently against the sides of the cylinder as thoroughly to incorporate it; and in a few hours the same material which we saw in the form of shreds appears as a soft, sticky substance, easily moulded into any form, and hardening in that shape so soon as it becomes cold. The steam is turned on to the masticating machine for about an hour at first, and the mass retains sufficient heat not to require its further use until the process is completed. By removing a small piece of the material as it presents itself at the round hole at the summit of the masticating cylinder, and carefully examining its condition, it is possible to ascertain the right time necessary for this part of the manufacture. The gutta percha is now of a brownish-red colour, a physical change which is the obvious result of the heat, steam, and pressure to which it has been subjected. It is, in fact, not improbable that a slight chemical change has taken place in the material, to which its altered colour may be partly attributable. It appears tolerably certain that a large amount of water is incorporated into the mass in the prolonged kneading process where steam is so abundantly diffused through the cylinder.

In this warm state gutta percha is used for all ordinary purposes. But it is sometimes desirable to colour it ; and in order to do so it has to undergo a second mastication. The substances which are capable of being mixed with gutta percha, without injury to its tenacity, have been already mentioned. Some of these increase its density and hardness, and thus fit it for such purposes as the rollers in flax machinery or the teeth of cog-wheels. But others are merely intended to give variety of colour to the material. Whatever be the colouring substance, it is intimately mixed with the gutta percha in the masticating machine, being put into them in the form of powder, to which a mass of pure and soft gutta percha is added ; the whole then becomes blended together. As this is not generally required to be done on a very large scale—the coloured material being chiefly used for ornamental purposes—small masticating engines are arranged near the larger ones, into which the materials are placed. The construction of these does not differ from that of the larger machines. They have the central axis, slowly revolving, the supply of steam, heat, the hinged door, &c., and in every respect resemble the larger ones except in size.

Thus far we have traced gutta percha in its progress from the state in which it is imported, to that condition in which it is fitted for every variety of manufacturing use to which it is subjected. The contrast is very remarkable in the physical condition of the material before and after having undergone these processes of manufacture. From a fibrous yellowish substance, it has become converted into a brownish wax-like mass.

From the masticating machines the material is taken to the various parts of the works, in which it is wrought into form ; and to these we shall successively pursue it, commencing with the most simple process, which is its conversion into flat sheets by the rolling mill.

For convenience, the rolling mill is placed as near the masticators as possible, in order that the material, while yet soft and hot, may be brought to it in that condition. The masticatory process being completed, the bar of iron which bolts down the door confining the material to the narrow cavity of the machine, is struck aside, and by a curious movement the whole mass of gutta percha rises up in one lump out of the cylinder, and is caught and removed by two men. It is taken at once to the bed of the rolling machine, where it is somewhat moulded, and then presented to the action of the engine.

The rolling machine is a very simple piece of mechanism, and closely resembles that employed in rolling metals. It is represented in the cut. It consists essentially of the following portions :—The gutta percha being spread out on the bed in front of the machine, is pushed forwards by the attendants until it is seized between two steel rollers which slowly revolve. In passing through the rollers, the soft material is spread out into a flat sheet, the thickness of which is determined by the distance of the rollers from each other. This sheet, on emerging from the rollers, is received on a broad endless band of felt, which is carried onward at the same rate as the revolution of the rollers discharges the gutta percha in sheet. Although, therefore, it emerges from the rollers in a soft and sticky state, its flatness is not affected, as it would be if the band moved too slowly, and its thickness remains unaltered, which would not be the case if it moved at a faster rate than that at which the sheet was formed. This band runs on rollers placed at proper intervals, and extending the whole length of the building. In order to cool the heated sheet of gutta percha, a fan, driven by machinery blows down upon its surface a powerful current of cold air, so that by the

time the sheet returns to the front of the machine it is nearly cold. When one length has been rolled out, the machine is thrown out of work, and the gutta percha is allowed to cool.



THE ROLLING MILL.

It does not appear that one rolling is sufficient—the surface of the sheet remaining rough and full of air-cells. A second or third rolling is consequently adopted; the size of the sheet being thus extended, while its breadth is increased, and its thickness diminished, sometimes, even to the thinness of tissue paper. The repeated rolling appears to condense the structure of the gutta percha, and to give it considerable hardness.

CURIOSITIES OF PHYSICAL GEOGRAPHY.

PHYSICAL geography is an account of the air, the sea, and the earth, and of their animal and vegetable productions. In detailing some of the curiosities of this science, we will proceed in the order of superposition, commencing with the air which is outermost, including heat, light, electricity, and magnetism, in the account of atmospheric phenomena. It is inferred from experiment that the heat received annually by the earth from the sun would melt a shell of ice forty-six feet in thickness, enveloping the whole globe, supposing this heat to be equably distributed over the earth's surface; and it is calculated that the heat which reaches the surface from the interior of the earth would melt a similar shell one-quarter of an inch in thickness. The earth is about three million miles nearer to the sun in winter than in summer, but the rays strike our part of the globe more obliquely in the former season than they do in the latter, and this is the chief cause of the greater cold of the winter. The hottest part of the day is between two and three in the afternoon, the coldest a little before sunrise; the hottest part of the year is about the middle of July, the coldest in January. The coldest places known are one north of Canada, and the other in Siberia, both on the

80th parallel of latitude; the pole may be considerably warmer than these places. The greatest heat ever experienced was, perhaps, that of 156° in the sun and 132° in the shade, observed near the Euphrates; and in Siberia, in December 1738, the cold reached 120° , so that a slight wind would have withdrawn heat from the body so rapidly as to cause death. In Guiana, the hottest and coldest months differ by only $2^{\circ}2$, whilst at Yakutsk, in Siberia, this difference is $114^{\circ}4$; and in Quebec, where the heat of summer equals that at Paris, the winters are as cold as those of St. Petersburg. In Thibet, a difference of 100° in the temperature has taken place in twelve hours. The winters of Dublin are warmer than those of Milan; and Stromness, in the Orkneys, has nearly as mild a winter as London, and a milder one than Paris. There is a curious meteorological phenomenon observed in America, which is called the Indian summer: it generally occurs from the 12th to the 17th of November, when a sudden change takes place in the commencing severity of winter; the air becomes warm and still and the sky clear, but in three days winter resumes its sway, and this brief summer is gone. The same change has been observed in Switzerland from time immemorial; and it is singular that this phenomenon is coincident with a vast atmospheric wave which occurs about this time, for the air is subject to waves analogous to those of the ocean but of much greater extent. The mean pressure of the air at the surface of the sea is fifteen pounds on every square inch, so that the pressure on the top of a moderate-sized table must be a good many thousands of pounds, and that on the whole globe enormous. The heated air at the equator ascends to the upper regions of the atmosphere, and the cold air from the poles pours along the surface of the earth to fill up the place left by this rarefied air: the friction of this cold air against the surface of the earth, occasioned by the rapid diurnal rotation of the latter, is the cause of the trade-winds so well known to the sailor. Here we have an instance of currents of air passing simultaneously in different directions; and this may often be observed by watching the upper clouds, which are frequently seen to go in a different direction from those nearer the earth. The trade-winds intermingle and destroy one another near the equator, so that at sea a light burns without flickering; and this constant interchange of air between the equator and the poles is the cause of the S.W. winds, which make the average passage of a sailing vessel from Liverpool to New York forty days, whilst the return voyage occupies only twenty-three. Hurricanes are immense whirlwinds passing over the earth's surface; in the middle of the whirl it is calm, the breadth of this centre varying from five to thirty miles. These tempests raise a heavy swell, which rushes in upon the shore like a vast embankment of water; in 1789 a town on the Coromandel coast, and 20,000 inhabitants, were destroyed by a succession of these hurricane waves, and as many perished there in 1839. Whirlwinds raise columns of sand two or three hundred feet high; Bruce, the traveller, saw eleven approaching him with a speed which no horse could escape from. In our hemisphere the air contains the least quantity of moisture in January and the greatest in July, but the cold of winter condenses the moisture and renders it perceptible; whereas in summer the heat diffuses it so much that it becomes insensible. The dew which falls in a year in England would form a covering of water five inches in depth over the whole country, according to Dalton. Clouds range from one to four miles above the earth, and are merely an aerial fog, or, if very high, a collection of minute crystals of ice. The greatest annual average of rain is 302 inches, which fall on the western Ghats; six inches have fallen in twelve hours at Demerara, and at Rome one-half of

the average annual quantity has descended in fifteen hours: still there are the fewest rainy days in a year within the tropics, although the quantity of rain that falls is the greatest. In the island of Litka, on the N.E. coast of North America, the year has passed with only forty days free from rain, and in Ireland there are three times as many wet days as there are in Italy or Spain. In England, France, and the north of Germany, from 152 to 155 days in the year are rainy. On the west side of the Peruvian Andes, rain falls only once or twice in a century, to the great alarm of the inhabitants when such an event does happen; in East Australia droughts recur every twelve years and continue for three. Rome averages one day and a half of snow in a year, St. Petersburg one hundred and seventy-one days. Hailstones, as large as hen's eggs, are not very uncommon, and occasionally masses of ice of great size have fallen. During Parry's stay at Melville Island the sun did not rise for ninety-two days, but extraordinary refraction brought it in sight three days before the time of its real ascent above the horizon. The mirage—an imaginary appearance of water—is common in deserts, and in some peculiar states of the atmosphere objects appear double, or several images are seen above one another, some erect and some inverted; occasionally, the shadow of an observer is thrown on a cloud or mist, the head of this shadow being encircled with coloured rings. Brilliant halos frequently surround the sun in high latitudes, and here the beautiful aurora rears its magnificent arch in the sky. Thunder occurs every day in some places, in others never. Wheatstone estimates the velocity of lightning to be much greater than that of light, which is about 190,000 miles in a second; the back stroke—as it is termed—may prove fatal at the distance of twenty miles from the point of explosion of a thunder storm. Electric flames are sometimes seen at the extremities of the masts and yards of ships and of other pointed objects. The mariner's compass—if free to turn in all directions—bends its north end downwards in the northern hemisphere, and its south end in the southern, and becomes perpendicular at two places called the N. and S. magnetic poles. There are four places on the earth's surface where the magnetic force is greater than it is anywhere else, but the whole magnetic system is perpetually changing. The compass is subject to daily movements from E. to W. and from W. to E., and magnetic storms of immense extent—indicated by agitation of the needle—occur occasionally, but no cause can be assigned for them.

The air becomes more and more rarefied as we ascend in it, and this occasions difficulty of respiration and other unpleasant effects, so that strangers who go to reside in the elevated villages of the Andes feel the change for nearly a year. Gay Lussac ascended in a balloon to the enormous height of nearly 22,000 feet, and suffered acutely; pigeons dropped in this thin air fall like stones; and as water boils under diminished atmospheric pressure at a much lower temperature than it does under ordinary circumstances, it is difficult to cook food by boiling at very elevated places. The sky overhead, too, appears almost black. Thus we see more clearly than we could do if ignorant of atmospheric phenomena, the truth of the declaration of God's word that the firmament "showeth" the "handiwork" of its Creator, all of whose works are replete with tokens of his goodness, his wisdom, and his power, which only become more apparent the more those works are studied in a spirit of humble and devout inquiry; for to those who examine them in such a spirit, their Heavenly Father is ever ready to unfold the wondrous beauties of his creation.

THE QUARRELS OF LOVERS IS THE RENEWAL OF LOVE.

In going to my naked bed, as one that would have slept,
 I heard a wife sing to her child, that long before had wept.
 She sighed sore, and sang full sweet, to bring the babe to rest
 That would not cease, but cried still, in sucking at her breast.
 She was full weary of her watch, and grieved with her child,
 She rocked it, and rated it, until on her it smiled :
 Then did she say, " Now have I found the proverb true to prove,
 'The falling out of faithful friends renewing is of love.' "

Then took I paper, pen, and ink, this proverb for to write,
 In register for to remain of such a worthy wight.
 As she proceeded thus in song unto her little brat,
 Much matter utter'd she of weight in place where as she sat ;
 And proved plain there was no beast, nor creature bearing life,
 Could well be known to live in love without discord or strife :
 Then kissed she her little babe, and swore by God above,
 'The falling out of faithful friends renewing is of love.'

"I marvel much, pardiè," quoth she, " for to behold the rout,
 To see man, woman, boy and beast, to toss the world about.
 Some kneel, some crouch, some beck, some check, and some can smoothly
 smile,

And some embrace others in arms, and there think many a wile :
 Some stand aloof at cap and knee, some humble, and some stout,
 Yet are they never friends indeed until they once fall out :"
 Thus ended she her song, and said, before she did remove,
 "The falling out of faithful friends renewing is of love."

R. EDWARDS, 1523.

TO LADIES, TO MAKE MUCH OF THEIR TIME.

GATHER the rosebuds—while ye may,
 Old Time is still a-flying,
 And this same flower that smiles to-day
 To-morrow will be dying.

The glorious lamp of heaven, the Sun,
 The higher he's a-getting,
 The sooner will his race be run,
 And nearer he's to setting.

Then be not coy, but use your time,
 And, while ye may, go marry ;
 For having lost but once your prime,
 You may for ever tarry.

Robert Herrick, a lyric poet of great eminence, lived from 1591 to a late period of the seventeenth century. He was presented to the living of Dean Prior, Devonshire, by Charles I. During the troubles he was expelled, and resided in London—a companion of the wits of the day, till the Restoration, when he again became the vicar of Dean Prior. The last verse of this song is scarcely worthy of the two beautiful verses which precede it, and some may think there is a gaiety about it, not suited to the *seriousness* of the advice which it gives

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A VISIT TO AUSTRALIA AND ITS GOLD REGIONS—No. VII.



PORT JACKSON, SYDNEY.

THE Harbour of Port Jackson, as seen from the point from which the above illustration was taken, is the most remarkable and best known view about Sydney. From George-street north, from the Flag-staff, from almost every height around the town, nearly the same view meets the eye. It is the view which first breaks on the gaze of the wanderer to these shores, after months of a monotonous vegetation at sea—the view over which he casts his eye to welcome the white sail of an English vessel, when the pilot's report speaks to him from the Flag-staff of the loved ones at home—

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the view which is "first beheld, forgotten last," by every immigrant to New South Wales—the view, in short, which all persons in the colony, old and young, rich and poor, bond and free, of whatever profession, rank, or creed, have looked upon so often and admired so much, that its coves and islets, and even its minutest features, are indelibly engraved on the tablets of their memory, and have become as familiar to them as household words.

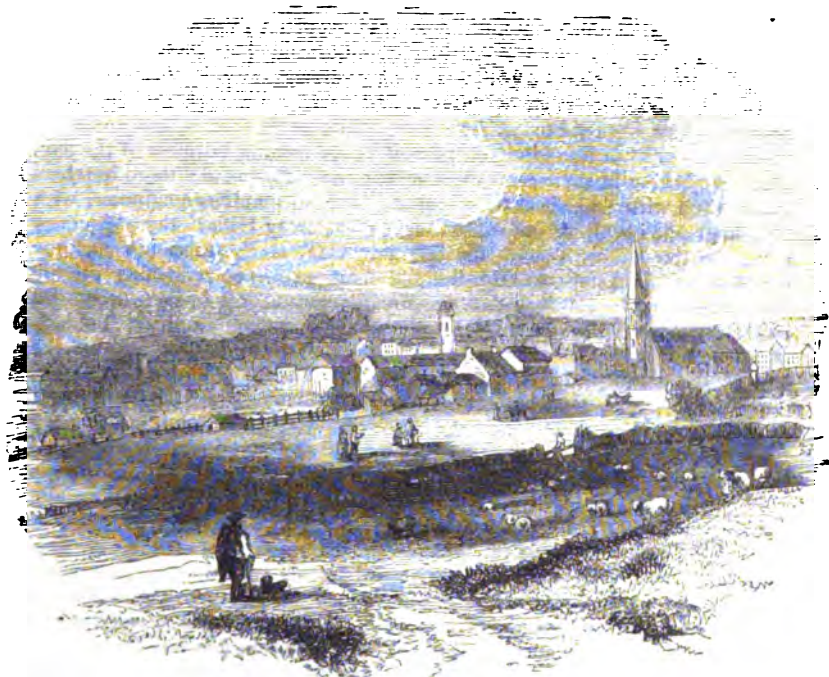
There are numerous delightful spots about the harbour, necessarily hid from the eye, in any single position that the spectator can choose; but it would be difficult to find a situation which could give a more complete idea of the pictorial beauty of the form and boundaries of Port Jackson, than the one selected; but to see it in all its beauty and variety, and fantastic windings, it is necessary to look on it from different positions, or to call in the aid of a waterman well acquainted with the localities, and to sail with him from headland to headland, from isle to isle, and to explore the numerous coves, and creeks, and bays, with which the harbour is so abundantly supplied.

The town of Sydney, with its forts, public buildings, and streets, rising from the water, and above each other, height after height; the bustle of the shipping, steamboats, &c., and the numberless beautifully-situated villas in the neighbourhood, form one of the most perfect combinations of picturesque and interesting objects possible. The town itself is built on two hills, the termination of which towards the harbour are fortified, in one case by Macquarie's Fort, and in the other by Dawes' Battery. From the first commences the Government domain, beautifully laid out in gardens and pleasure-grounds, all open to the public, and on which is built the Governor's house, or rather houses. From the other point commences the town, which is fully two miles in extent, and through the whole of which runs George-street, the principal street of the city. There are several other streets running in a parallel direction to it, and intersected at right angles by others. The streets present to us every variety of building, from the early settler's log-hut—rudely constructed and by no means weather-proof, carrying the mind back to the time when the site of the town was covered with wood, and parrots and kangaroos were the sole inhabitants—to the handsome stone dwellings of the wealthy colonists, which would be no disgrace to the finest streets of London. George-street is a fine, open, bustling street of business—the shops quite English in their appearance, and in many instances equally splendid in their fittings-up: indeed, were it not for the drays drawn by six or eight bullocks occasionally met with, and for now and then seeing a little group of natives fantastically rigged out in such left-off finery as they may have been enabled to procure from the town-folk, it would be difficult to imagine ourselves out of Old England.

It is quite impossible to observe the number of first-class vessels, from all parts of the world, entering and leaving the harbour, the consequent bustle at the various quays and wharves, the business-like appearance of the people, and the lively character of the streets, lighted in the evening by gas, without feeling assured that you are in a place where prosperity and the comforts of this life are largely participated in by its inhabitants. Although apparel is expensive, the people generally speaking dress remarkably well, and it is extremely rare to meet with anything which would remind you of the poverty and distress so commonly and extensively experienced in the land we have left behind us.

The style of the modern-built houses, and of those which are daily

springing up around, is essentially English; and the ground is so very valuable that gardens are exceedingly scarce. This value of the ground, and the high wages paid to all kinds of mechanics, causes house-rent to appear exorbitantly high to the new-comer. A first-rate shop, independently of the house above it, will command from 150*l.* to 300*l.* per annum, according to its style and situation; while there is scarcely a decent house occupied by the poorest class at less than 50*l.* per annum. A house we ourselves occupied in a retired and respectable street, containing six rooms, kitchen, and cellar, the front parlour about twelve feet square, the drawing-room about sixteen feet, and other rooms in proportion, was considered cheap at 190*l.* per annum. This large annual outlay is startling at first sight; but when we find that mechanics are earning their ten shillings per day, and that other classes of society are remunerated on something like the same scale, we become reconciled to the expenditure, and the more so when we find that there are no tax-gatherers to knock at the door.



CITY OF SYDNEY.

As regards bathing, there is no English watering-place which can surpass Sydney. Baths are erected, at which, for the payment of fifteen shillings per quarter, the most timid can enjoy that luxury without fear; while for those whose nerves are a "leettle stronger," there is a beautiful cove, overhung with a profusion of trees, where on a gently shelving bed of sand we can encourage an intimacy between ourselves and the liquid element; and for those who are accomplished in the art of swimming, there are rocks from which they can fearlessly plunge into the refreshing flood.

The above illustration will convey to those who are strangers an idea of

the general characteristics of the metropolis of Australia. We were about to enlarge our observations upon this important and "capital" feature of Australasia, when we happened to come across Mr. Mossman's entertaining book upon the Gold Regions;* and his description of the city is so graphic and correct, that we may well be excused for transferring a portion of it to our own pages:—

"Stepping into a skiff alongside the vessel, about ten in the morning, we thread our way amongst a busy mass of shipping, from the small coasting cutter to a square-rigged vessel of a thousand tons, all employed lading and unlading, with ever and anon the cheerful 'Yeo heave ho' of the sailors. We land on a massive stone-built quay, where there are ships moored drawing twelve and fourteen feet water, and proceed to a compact-looking custom-house, where we meet with a civility and attention unknown in the old country ports. Pursuing our course into the city, we pass along spacious and well-paved streets, all built of white hewn stone, with elegant shops and warehouses, while at intervals some handsome public building peers out from the mass of buildings. At every step we elbow a bustling throng of people, dressed much in the same fashion as ourselves, only a little lighter in their habiliments. The carriage-way is thronged with carriages, cabs, horsemen, omnibuses, and carts. Through this crowd we pass, scarcely observable as strangers, while each face seems anxiously looking forward to its individual pursuit in the coming business of the day. Here are bakers in their carts distributing the daily bread; there butchers trotting on with their baskets of meat; here an omnibus conductor, with his finger up, is calling out, 'Paddington,' 'Surrey Hills;,' there a jarvey from the stand hails us with the familiar 'Cab, sir?' whilst the cockney drawl of the hucksters, selling fish and fruit, sounds so refreshing on the ear, so thoroughly English, that we stop in amazement. In fact, here is an every-day scene before us which at once stamps the community. There is no mistaking it. The same may be seen at a corresponding time of the day in the High-street, Islington, London; North Bridge-street, Edinburgh; Piccadilly, Manchester; New-street, Birmingham; or Bold-street, Liverpool. Instead of thinking ourselves fifteen thousand miles away from these localities, we could imagine a railway station close by, where the next train would take us in a few hours to any one of them. To the immigrant from the United Kingdom this is not a *foreign* land. The novelty to him is the familiar aspect presented by everything around—in fact, the absence of novelty; and he is surprised, after a three or four months' voyage, to find an every-day scene like this burst upon his astonished sight, where he expected wild and picturesque barbarism. To the man of homely sympathies the surprise is agreeable; and he begins to trace in the passing throng resemblances to beloved faces which he has left far behind.

"Those tall chimneys within view belong to steam flour-mills, of which there are upwards of seventy in the colony, besides fifty water-mills, twenty-six windmills, and twenty-eight horse-mills, all employed in grinding and dressing grain. There are likewise about ninety-five tallow-melting establishments, which annually boil down half a million of sheep, and slaughter fifty thousand horned cattle. And of manufactories, there are five distilleries, twenty-four breweries, three sugar refineries, twenty soap and candle, fifteen tobacco and snuff, six woollen cloth (producing annually 200,000 yards of tweed and broadcloth), four hat, four rope, forty

* "The Gold Regions of Australia." By Samuel Mossman. Orr & Co.

tanneries, five salting and preserving meat establishments; one gas works, seven potteries, one glass works, one smelting works, and thirteen iron and brass foundries;—a list of useful works which, increasing as they are every year, bids fair in time to produce manufactures sufficient to shut out one-half the present imports of British goods.

“Hark! one o’clock strikes from the churches, and is echoed back by ‘two bells’ from the shipping. Business throughout the city is suspended for an hour. The workmen go to dinner, while their masters eat a hearty luncheon. This hour is as strictly kept here as the *siesta* in a Spanish town; the difference being, that while the Don sleeps, John Bull eats. Here are numerous *table d’hôtes* and ordinaries, dining from twenty to sixty, with courses of soup and fish, roast and boiled, as much as any man can eat in this land of beef and mutton from a choice of twenty to thirty dishes, with dessert, for a small matter of one shilling,—a coin as easily earned by the clever and industrious man here as sixpence is in England. Here is luncheon: a goodly display of viands. Turtle from Moreton Bay; although not so rich in flavour as West India, yet it makes good soup, and, like beef and mutton here, may be had at a penny or twopence per pound. Sole and schnapper from Botany Bay. We can’t boast of salmon or turbot. Wild turkey from the plains; ducks and pigeons from the Hunter River, rolling in fat. The vegetables are sweet and juicy, and the salad crisp, having been cut before sunrise; and those smiling, black-coated potatoes are from Van Diemen’s Land, the finest in the world.

“Fruit, in the summer season, composes principally our midday meal; they are the treasures of a warm climate, and yet to be had at a trifling expense. Here are pine-apples and bananas from Moreton Bay and Brisbane Water, where, in the former localities, they grow like cabbages in the open air; oranges from the expensive groves near Parramatta, where their blossoms flavour the honey; melons, grapes, peaches, nectarines, plums, loquats, and other fruits from the neighbourhood of the town; gooseberries, raspberries, strawberries, currants, apples, and pears, from Van Diemen’s Land. And here we can wash down the *débris* with a glass of native-grown wine: first, an excellent species of Sauterne from Camden, which is the chief character of the Australian vintage; next, a tolerable claret from Regentville; a middling sort of Madeira from Varroville; and a brisk glass of Burnett’s champagne from the Hunter River. Verily, this land can produce your light wines most plentifully, which will, no doubt, improve in quality as the growers attain experience.”

THE VALLEY OF ROCKS.—No. II.

THE scene was very lovely on the right; but on the left the hills formed a high, rough, perpendicular wall, and our path was narrow and winding. An hour’s travelling in this way was required to bring us to the foot of the strange-looking conical hill, which rises on the right of the Valley of Rocks and descends in a perpendicular precipice to the sea.

This hill looks as if the hand of a giant had taken up a huge portion of some broken rocky mountain, and clapped it down hastily; and as if some of these days it might lose its balance, and tumble over into the sea or the opposite valley.

“What a glorious place to enjoy solitude!” we exclaimed, looking about on the wild treeless waste around us on land, and the exquisitely

lovely prospect toward the sea; the numerous headlands beyond us on each side, the calm blue sky, and the sea glittering in the beams of the mid-day sun, and dotted over with craft of every sail of dazzling white or deep brown, lazily awaiting wind and tide to help them in their course up or down the channel.

"Not absolute solitude," exclaimed one of our party; "here is a venerable old man, who some thousand years ago might have personated the priest of this rural temple."

"Welcome, gentlemen and ladies," said the old man approaching, evidently intending to act as master of the ceremonies; "allow me to carry your basket, and to help you up the hill—here, little master, let me carry you; you are not the first young gentleman by many whom I have carried up this hill."

The path, which had inclined upwards toward the west side of the hill, now turned sharp round to the right, and we looked down the steep declivity of grass, scattered here and there with stones and rocks of all shapes and sizes.

"It would be no joke to roll down this hill," said one of our party.

"So you would say," said our old man, "if you had seen a lad fall here as I once did."

"Was he killed?"

"No, sir, but it was a wonder he was not. I can never tell what I felt as I saw him roll over and over among the sharp rocks to the bottom; I expected to find him dead, or at least with half the bones in his body broken, when I ran down to pick him up."

"And was he much hurt?"

"Not at all, so he said at the time; but that led me to make these paths. There were none here at the time; it was eight years ago the 15th of last December; and I said to myself as soon as I had recovered from my fright, and as I looked down, 'people will climb up this rock in spite of the danger; please God, I'll make a path for 'em; it may save some lives.' And so next day I set to work."

"Had you nothing else to do?" we inquired.

"Why, sir, I used to go to work then for the farmers, but it was frosty weather, and they had nothing for us to do that week, and then came Christmas week, and then the folks were keeping holiday; so I set to work in good earnest and got it all done in that time. Folks laughed, and said I was a foolish old man to waste my time and labour so, and that I should never finish it; but I didn't much mind 'em; I knew that if anything good was to be done, there are always some ready to scoff at it, so I lifted up my heart to the Lord, and set boldly to work."

"But were there then all these seats, and steps, and tables?" we asked, "or have these been made since?"

"Oh, sir, they have all been done since—my hands have made all the improvements here. At first I used to work a little at odd hours, or when I had an idle day; but now I am past a day's work, and I stay here always during the summer. But come and see my work."

So we wended our way round the rock to the right, and there we saw seats made of thin slaty pieces of rock, piled as a wall is made, layer upon layer; here the rock itself made to assist, there a huge block serving for a table, with seats around it.

"Here," said our host, "visitors come and take their tea or their dinner, and I have a house round the other side, where I boil the kettles, and I

wait on them. I'll show it you all by and by ; but would you not like to come to the top ? you see I have made a staircase for you, now every body can get up."

The top of the rock did, indeed, afford a magnificent view, as we sat on the grass or on the huge blocks of massive rock. The outline of the coast on either side lay spread out far below like a map. On the one hand was the little bay of Lynmouth, with a peep of one or two of its houses ; then the massive mountains between which the East Lyn has cleft a way ; the steep road winding up to the little hamlet of Countisbury, and the craggy cliffs of the same name beneath, and finally the long and bold promontory of the Foreland, with its dark caves and abrupt precipices, shutting in the view like a mighty wall.

On the other hand, a still wilder and more rugged succession of headlands met the view. Duty Point, the pretty quiet cove of Lee, the sweep of coast known as Woodabay and the lofty Highweer Point terminating the prospect in this direction.

The huge angular blocks of rock around us were partly hidden by thickets of privet, that flourished in luxuriance ; and its dark glossy foliage threw out into relief the pretty white flowers that tempted us to pluck them.

"Has this privet been planted here, or does it grow wild?" said one of us.

"It grows of itself," said the old man ; "there is more of it down below among the rocks. Yet there have been seeds planted and beautiful flowers here," added he with a sigh, "but they are all gone now."

"How is that ? is the air too keen for them ?"

"No, not that," replied he ; "they grew beautifully here : a young gentleman sent me several packets of seed—he had been here several years before, and came a year or two ago to see the place again, and he remembered me though he had grown out of my knowledge, as often happens when young folks come and tell me they remember me. Well, he came to see me and my improvements, and he promised me the seeds of beautiful flowers to plant among these rocks. He sent them me in a letter, and I went and planted them all about, in all the little crevices, and I watched and looked after them, and they took root and grew, and flowered, and made the place like a garden."

"How very pretty ! but what has become of them all ?"

"Well, one Sunday, when I was not here, the people came as usual ;—there are lots of people on Sundays, and they often do mischief, but I never come on Sundays, I never have, and never mean to do it ; but when I came up early on Monday morning they had left me none ; they had not only taken my beautiful flowers, but they had pulled them up by the roots, and they were all lying dead. I shall never plant any more."

The heat by this time was become very oppressive, not only from the sun's rays being unmitigated by any shade, but from the stone on which we rested having become hot ; and we descended the curious steep steps built into the rock with stones and slates. And now, passing through an arched passage, partly natural, partly the work of our old cicerone, we came again in sight of the sea, but with the advantage of a deep shade, and the enjoyment of what slight breeze was stirring. We sat down on a ledge excavated for the express use of travellers like ourselves, and set ourselves to discuss the contents of the basket before alluded to.

As we gazed around us on the strange-looking rock upon which we had mounted, and saw everywhere traces of the hand of man—not man in the

abstract, or generically, but of the individual old man before us, an old man of nearly eighty, one who had been a farm servant all his days, and who, when he was past work, might fairly have looked to parish assistance to support him in his declining years—we could not but be struck with the lesson practically set forth before us, and we said to each other—"This old man is indeed a reproach to most of us. We see in him how much can be done by persevering industry: and how useful those may become to the world, who seem to have but few opportunities out of the sphere of labour by which they get their daily bread."

"We see also," said one, "that the fact of our having a business of our own to attend to, needs not shut up our heart and thoughts from those less near us."

"We see also," said another, "that to seek the good of our neighbours, is often the surest way to promote our own. I dare say this old man receives many a shilling from visitors during the summer, which helps to make him very comfortable during the long winters, and which is better far than parish relief."

"And yet, you see, he will not come here on Sunday, though doubtless he could get a good deal of money by doing so; and though he has often, no doubt, enough to do on Monday, in repairing the mischief that has been done in his absence."

"Yes! there are many who, in similar circumstances, would persuade themselves that there was no harm in attending to their own interests on Sunday, if they would lose much by abstaining."

"He would not prosper so well, even in this life, though," said one, "for 'a little that a righteous man hath, is better than great treasures of the ungodly.'"

"Yes, indeed! the Lord, by his prophet, compares such gains to earning wages, and putting them into a bag with holes."

"But here he comes again."

"Would you please to like a little water after your sandwiches, ladies and gentlemen?"

"Thank you, it is just what we should be glad of; but how do you get water up here? I suppose you catch it when there is rain."

"Rain-water! O no, sir; first taste it, it is the most beautiful spring-water, and always cold in the hottest day. You see those rocks down by the sea. About half-way down there is a cleft in the rock, and from thence issues a clear stream of sweet water; it is never dried up in the driest season. I scramble down and get it myself, and keep it in jars for occasional use. We use a great deal, sometimes, when there are several tea-parties in the day."

"Indeed! it is very sweet water, and delightfully cool."

"But you have not seen my house yet, sir, where I light my fire for the company, and keep the water."

So we rose and proceeded to the western side of the hill, and there was the house. Part of the wall was the hill itself, and most of the roof a shelving projecting rock. With this natural assistance, and much building up of slates and stones and boards, he had contrived a tight little cabin, with a fireplace, fuel, tea-kettles, shelves containing several sets of china, tumblers, wine-glasses, and cups. The walls were ornamented with a variety of advertisements, reminding us of the inside of the second-class railway carriages around London, and showing, that of many visitors it was as true, as of old John Gilpin's wife,

"That though on pleasure they were bent,
They had a frugal mind,"

or at least an eye to business. And on the ground, under the shelves, stood a row of high brown earthen jars, each full of water, and covered at the mouth with a bit of stone or a plate, to keep out the dust. We thought of the marriage at Cana of Galilee, and of the six water-pots of stone filled with water, which were the occasion of our Lord's first miracle.

But now we had thoroughly exhausted the Castle Hill, and the old man's treasures, so, having

"Cast one longing lingering look behind"

on the exquisite landscape sea-ward, we descended the hill, and inquired of our guides, what was to be seen and done next. We thought at the time we would soon come to that rocky vale again; but we never have revisited it, and perhaps never may, except in imagination, which has already often taken us, as now, into that calm quiet temple of Nature, to exclaim with Elizabeth Smith—"A happy day like this is worth enjoying; it seems to tune the soul for heaven."

THE MEDICI.

THE family of the Medici had for many ages been esteemed one of the most considerable in the Florentine republic; the true source of their wealth being their superior talents and their application to commerce. The renowned and illustrious Cosmo de Medici, however, surpassed all his predecessors in wealth, authority, generosity, and prudence. His palaces, one in Florence and four in the country, were regal in their size and splendour. Yet, though chief of the Florentine republic, and in constant intercourse with the sovereigns of Europe, his conduct was devoid of all ostentation. Everything was tempered with prudence. In his conversation, his servants, his style of travelling, and his mode of living, the modest demeanour of the citizen was always evident. No one was jealous of his power, for by his virtue and prosperity he overcame all his enemies, and exalted all his friends. The uses to which he applied his great wealth caused him to be much beloved and respected in Florence, and obtained for him the highest consideration, not only throughout Italy, but throughout all Europe. His conduct was uniformly marked by urbanity and kindness to the superior ranks of his fellow-citizens, and by a constant attention to the interests and wants of the lower class, whom he relieved with the most unbounded generosity. He was the liberal and munificent patron of learning and the fine arts, which under his auspices began to revive in Italy.

He was in the zenith of his glory, and in the enjoyment of the highest renown, when death summoned him away. All the Christian princes mourned his loss. His funeral was conducted with the utmost pomp and solemnity, the whole city following him to his tomb in the church of San Lorenzo, on which, by public decree, his name was inscribed as "Father of his Country."

Before he died, this great man recommended to his successor and son, Piero de Medici, a strict attention to the education of his children.

Years passed away. The children of Piero de Medici, as they grew up, gave promise of no ordinary talent. Lorenzo, with good sense and great natural ability, inherited also his grandfather's love of literature and the fine arts. He made great progress in learning, and whilst he was yet a boy,

rendered himself conspicuous by his poetical talents and various accomplishments. And the merry Giuliano, though he did not by any means neglect his studies, was yet more partial to horsemanship, wrestling, and throwing the spear, in which active exercises he excelled. Both the brothers were fond of country sports, and in riding or hawking passed many a pleasant day. Alike generous and affectionate, educated under the same roof, and participating in the same studies and amusements, there subsisted between Lorenzo and Giuliano a warm and uninterrupted attachment. By the example and instructions of their mother, Lucretia, who was one of the most accomplished women of the age—distinguished not only as a patroness of learning, but by her own writings also—they were daily preparing for the high station which they were destined to occupy in their native city.

When Lorenzo was twenty-one years of age, he married Clarice, a daughter of the illustrious house of Orsini, in Rome. Their nuptials were celebrated with great splendour, and Lorenzo ever treated his wife with particular respect and kindness.

Piero de Medici did not long survive the marriage of his son. On the second day after his death, the principal inhabitants of Florence waited on Lorenzo, and requested that he would take upon himself the administration and care of the republic in the same manner as his father and grandfather had done before him. It was a high honour to one so young, and Lorenzo felt it as such. He hesitated, at first, to comply with their wishes, but they persuaded him; and then, aware of the difficulties which he had to encounter, selected as his chief advisers those citizens most esteemed for their integrity and prudence, whom he always consulted on questions of importance.

But I come now to a very sad part of my story. A few years after the marriage of Lorenzo, an event took place in Florence which has seldom been mentioned without emotions of horror and detestation, and which afforded an undoubted proof of the ungodliness and irreligion which prevailed in Italy at that time; for fearful and atrocious as the crime was, a pope, a cardinal, an archbishop, and several other priests were the promoters and instigators of it! The lovely land of Italy, without the pure light of the glorious gospel, was dark, degraded, and unhappy!

One of the noblest and wealthiest of the families in Florence was the family of the Pazzi. Though they had received favours from the house of Medici, they were jealous of its rising power; and when Pope Sixtus the Fourth stood at the head of a conspiracy to destroy two young men who were an honour to their age and country, they willingly joined him and his band of ruffians. He, with his great-nephew, the Cardinal Riario, the Archbishop of Pisa, the King of Naples, and the Pazzi family, secretly agreed together to assassinate the noble brothers, Lorenzo and Giuliano de Medici!

The plans of the conspirators being arranged, the cardinal and archbishop came to Florence, and took up their residence at a seat of the Pazzi, about a mile from the city. Lorenzo, who was then at Fiesole, hearing of their arrival, with his usual hospitality invited them to his house, and prepared a magnificent entertainment on the occasion. This pleased the conspirators; they accepted the invitation, and agreed that the brothers should be assassinated in the midst of the banquet. They went to Fiesole, but to their disappointment, Giuliano, on account of indisposition, did not appear; and so their wicked design was, for a time, frustrated.

"We have been foiled to-day," said Francesco de Pazzi, when they had returned home; "but it shall not happen again. I long for the hour when

the power of the proud Medici shall be trampled in the dust. If the deed is to be done, my lord archbishop, there should be no delay."

"There shall be none," replied the archbishop; "I am as anxious for the death of Lorenzo de Medici as you are, Francesco de Pazzi. Did he not object to my preferment on the ground that my character could not bear inspection? Yes; and he shall feel my revenge! On Sunday morning next, when all will be present in the church of the Reparata, our purpose shall be accomplished. The signal for the murder shall be the elevation of the host."

"A bad hour, and an improper place to choose for such a deed," observed Giovan Batista, a soldier who had much distinguished himself; "whilst I thought it was to take place in a private house, I did not object; but now the case is different."

"It signifies little where it takes place," replied the archbishop; our purpose is to see it done. And as you are a brave man, Giovan Batista, we commit the assassination of Lorenzo to your hands."

"Not to me, my lord!—not to me!" said the soldier. "Bold as I am, I am not bold enough to pollute the house of God with the crime of murder, or base enough with my own hand to take the life of one who has been a good friend to me."

"I pity your scruples," replied the archbishop, with a sneer; "but we need not your help; there are many ready to perform the service." And he selected two priests to execute the deed from which the soldier shrank.

"I will undertake the assassination of Giuliano," exclaimed Francesco de Pazzi, "that office shall be mine; though we have been on friendly terms, I am not so scrupulous as Giovan."

"Be it so; we leave him to you and Bandini. His holiness the pope will not fail to reward your services."

"Ay,—his holiness would have the dominion of Florence for himself," muttered Francesco; "but that shall not be whilst I live."

It was then agreed that the archbishop should seize on the palace where the magistrates assembled, whilst at the same time Jacopo de Pazzi was to endeavour, by the cry of liberty, to incite the citizens to revolt.

While these bold and bad men were thus arranging their wicked plans, the two brothers, perfectly unsuspecting of what was going on, were passing their time in attention to public affairs, and in the studies in which they both delighted.

Having heard that the young cardinal Riario desired to attend divine service in the church of the Reparata, Lorenzo invited him and his suite to his palace in Florence. On Sunday, the 26th of April, 1478, he accordingly came with a large retinue, and was received by Lorenzo with that splendour and hospitality with which he was always accustomed to entertain men of high rank and consequence.

Giuliano did not appear,—a circumstance which alarmed the conspirators at first; but Lorenzo, apologising for his brother's absence, informed them he intended to be present in the church.

Thither the party proceeded. The service had already begun, and the cardinal had taken his seat, when Francesco de Pazzi and Bandini, observing that Giuliano had not arrived, left the church, and went to his house in order to hasten and secure his attendance. Giuliano accompanied them; and, merrily laughing and chatting, the three young men walked on together. They entered the church, and the conspirators, standing near their intended victims, waited impatiently for the appointed signal. The

bell rang,—the priest raised the consecrated wafer,—the people knelt before it,—and the next instant, Francesco de Pazzi drawing a short dagger, Giuliano de Medici lay dead upon the ground!

Lorenzo happily escaped. The two priests who had undertaken his assassination, perceiving that he prepared to defend himself, fled, but not without giving him a wound in the neck. The unfortunate Giuliano, though he usually wore a dagger, had that day left it behind him. As Bandini, with fury in his looks, rushed forwards, the friends of Lorenzo, encircling him, hurried him into the sacristy, and closed the brass doors. The alarm and consternation in the church was extreme; and such was the tumult which ensued, that many thought the building was falling in. But no sooner was it understood that Lorenzo de Medici was in danger, than several young men, forming themselves into a body, placed him in the midst of them, and conducted him to his palace, making a circuitous turn from the church, lest he should meet with the lifeless form of his beloved brother,—that brother who so lately was full of health and happiness by his side!

One of these noble youths, named Antonio Ridolfo, gave a striking proof of his affection for Lorenzo. Being apprehensive that the weapon which had struck him was poisoned, he, in spite of Lorenzo's entreaties, sucked the wound. An attendant on the Medici was wounded, and another lost his life, in defence of their master.

Whilst these terrible events were passing, the Archbishop of Pisa had, with about thirty of his associates, made an attempt to overthrow the magistrates, and possess themselves of the seat of government.

But the magistrates secured the gates of the palace, and repulsed their enemies. On looking from the windows they beheld Jacopo de Pazzi, with about a hundred soldiers, calling out, "Liberty! Liberty!" and exciting the people to revolt. At the same time they were informed of the murder of Giuliano, and the attack made upon Lorenzo.

Their indignation was extreme "Giuliano de Medici dead!" they exclaimed. "Assassinated in his own city! and by treachery, too!—We little know the Florentines, if they do not fearfully avenge the crime."

They did so. Instead of answering to the cry of liberty, the people with one accord rose up to take signal vengeance on the murderers of a Medici. It was a sad and terrible day! In every direction the conspirators were attacked and slaughtered. The resentment of the citizens knew no bounds. The streets resounded with shouts of "Palle! palle!—Perish the traitors!"* Francesco de Pazzi and the Archbishop of Pisa were seized and hung side by side through the windows of the palace, the latter not even being allowed to divest himself of his prelatical robes. Jacopo de Pazzi shared the same fate. His body, after being treated with the greatest indignity, was thrown insultingly into the waters of the Arno.

Such was the fate of one who had been, as it were, a prince in Florence, and who had received the highest honours of the state!

The two priests who had undertaken to assassinate Lorenzo, Giovan Batista, and the cruel Bandini, were all put to death. The latter had taken refuge in Constantinople, but the sultan, being apprised of his crime, ordered him to be seized and sent in chains to Florence; alleging, as his motive for doing so, the respect he had for the character of Lorenzo de Medici.

As for the young Cardinal Riario, who had fled for safety to the altar,

* Golden balls were the arms of the family of the Medici.

he was preserved from the enraged populace by the interference of Lorenzo; but the fright he experienced on this occasion affected him so much, that, it is said, he never afterwards recovered his natural complexion.

Throughout the whole of this dreadful retribution—and more than a hundred of the conspirators had perished—Lorenzo had exerted all his influence to restrain the indignation of the people, and to prevent further slaughter. Soon after the attack made upon his life, an immense multitude surrounded his palace, and not being convinced of his safety, demanded to see him. Full of bitter grief as he was at the untimely death of his brother, and suffering from the wound in his neck, Lorenzo gladly seized the opportunity which their affection afforded him, and, appearing on the balcony, implored them, in a pathetic and forcible speech, to moderate the violence of their resentment.

“Let me entreat you, my fellow-citizens,” he said, “by the love you bear me—by the love you bore my lamented brother—to calm your excited feelings. A dreadful crime has been committed—an atrocious crime. But take not on yourselves the task of punishing the guilty, lest you involve the innocent also in destruction. Leave that to the magistrates; they will do justice—they will avenge this fearful deed. You have given me many proofs of your affection—give me yet another;—let not the name of Medici be a signal for violence and bloodshed.”

His words and appearance had a powerful and instantaneous effect. “We devote ourselves to you and your cause, noble Lorenzo!” cried the people with one voice; “your wish is our law. Only we pray you earnestly to take all possible precautions for your safety, as on that depends the welfare of the Republic and the hopes of the Florentines.”

The death of Giuliano was deeply lamented, not only by his family, but by all Florence. His obsequies were performed with much magnificence in the Church of San Lorenzo, amidst universal sorrow.

But the people could not forgive the Pazzi family. Those of them who had not suffered death were condemned either to imprisonment or exile. By a public decree it was ordered that the name and arms of the Pazzi should be for ever suppressed.

It was Lorenzo himself—the man they had most deeply injured—who first forgave them, and eventually restored them to their former rank.

Florence, under the sway of Lorenzo de Medici, arrived at a high degree of prosperity, and became renowned as the seat of learning and the fine arts. His fellow-citizens, who regarded him with pride and affection, conferred upon him the title of “Magnificent.” He had several children; one of whom, made an abbot before he was eight years old, and a Cardinal when only thirteen, was afterwards the famous Pope Leo the Tenth.

JOHN PHILPOT.

MARTYR, 1555.

JOHN PHILPOT was one of the noble army of martyrs. He was a very eminent divine of New College, Oxford, and archdeacon of Winchester. The following passage is selected from one of his latest letters to the Lady Vane:—“The world wonders we can be merry in such extreme misery; but our God is omnipotent, who turns misery into felicity. Believe me, dear sister, there is no such joy in the world, as the people of Christ have

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HISTORY OF GUTTA PERCHA.—No. V.

ONE of the most important of the variable uses to which gutta percha in the sheet is applied, is for making driving-bands for machinery. The manner in which these are cut from the sheet is both simple and ingenious. At the furthest end of the rolling machine is a large wooden drum, on to which the sheet of gutta percha, when sufficiently cold, is wound. At a little distance from this is another drum of a similar kind; and in the interval between the two is a metal frame, with a number of vertical slits in it, set closely together. Into these slits, at any required distance apart, sharp knife-blades are slipped; and these, as the sheet passes from one drum to the other, divide it with great smoothness into the various widths employed; these are afterwards unwound from the second drum and coiled up. When these ribbons of gutta percha are required for driving-bands for machinery, they are passed through a simple little machine, which makes them of a uniform width, and hardens them, rounding also the edges, and thus obviating their wear by friction.

Of late, gutta percha has been very extensively used for ornamental objects, such as ink-stands, pen-trays, baskets, watch-stands, vases, &c.; and its durability over porcelain, or even wood, for these and similar objects, renders its extensive use in such cases easily appreciable. The manufacture of these objects occupies a large number of clever modellers and stampers. The original design having been selected, a model is prepared, from which an electrotype cast is taken and converted in a mould. The cast is made solid at the back by being "backed up" with lead, and is thus fitted to bear the pressure requisite for driving the gutta percha in its soft state into every part of the mould. The two pieces of the mould being accurately fitted to each other, a heated mass of soft gutta percha is placed between them, and the mould being closed, is then subjected to the pressure of a powerful screw. Every crevice of the mould is thus entirely occupied with the material. When cold, the mould is removed and opened, the gutta percha taken out and trimmed, and then appears of the perfect form of the original model.



GUTTA PERCHA ORNAMENTS.

In this simple manner all the more ornamental articles are produced. The manner in which colour has been imparted to them has been already partly described. A very pleasing imitation of old oak is made by mixing together, on a heated slab in the moulder's room, gutta percha of a light

yellow, with the same material of a dark brown colour, not to the extent of complete incorporation, but to such a degree as to leave the streaks of the different materials visible in the mass. The appearance of marbling is given in the same manner.

When the gutta percha leaves the mould, its surface, although smooth, does not possess that degree of lustrous polish which it is thought necessary to give to ornamental objects. This is effected by the application of a varnish, composed of gutta percha and other materials, and the brilliancy of which is very extraordinary, and also very enduring. Some of the objects almost resemble glass, so lustrous is their surface.

While many articles thus admit of easy and rapid production by the process of moulding, others require that of modelling, and many, a combination of both of these departments of practical art. Some of these are shown in the cut. In order to give every facility for this, and for the union of different parts of objects together, steam-pipes enter into every room, supplying heat to slabs of marble or metal, or troughs of water, and thus affording a constant means of softening, or rendering ductile, pliant, or adhesive, the material operated upon. An enormous amount of steam is consumed in these and in the masticating rooms, for the supply of which, capacious steam-boilers with large steam-chests above them are continually kept heated. The readiness with which the material in its soft state obeys the will of the modeller is well illustrated in these rooms, in the variety of forms it assumes under his manipulation, some for ornament and some for use.

The manufacture of gutta percha string somewhat differs from that of other objects. A sheet of thick gutta is subjected to the pressure of a steel roller of a flat description, on the surface of which are a number of parallel knife-like edges. The sheet is thus nearly cut through into a number of strips; one by one these are torn off, and are placed in warm water, by which they become sufficiently softened to admit of extension. An attendant then begins to draw out the end, throwing it as he does so into another trough of warm water, and continues pulling out and extending it in succession through the whole length. This is then repeated back again into the original trough, and so on, until the string is reduced to the required size. Gutta percha string is useful for many minor purposes, and particularly for the lines of window-blinds; but it is a little too unyielding for many others to which it might be applicable. Its tenacity is considerable, but not nearly equal to that of hemp string of the same thickness.

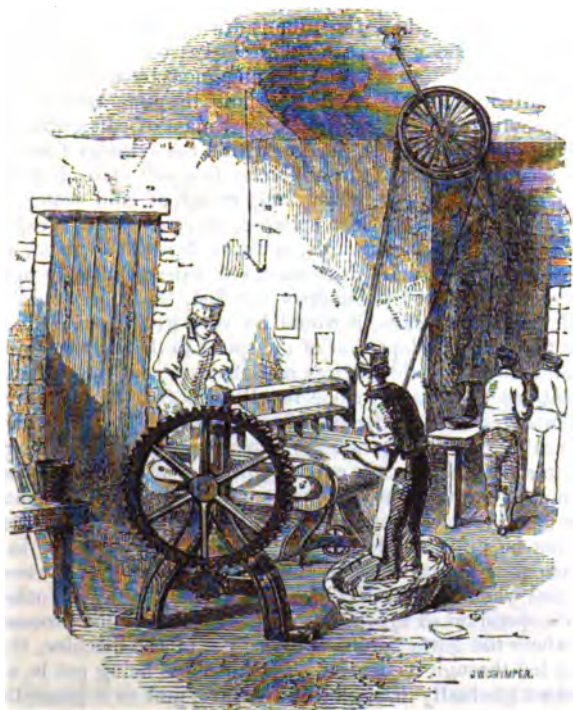
Sheet gutta percha is cut into soles for boots and shoes by the simple but ingenious machine shown in the cut. This machine is a modification of the



EMBOSSING PRESS.

paper-cutting engine patented by Mr. Wilson. A piece of gutta percha of appropriate width is selected and cut into the required lengths (six or eight pieces being operated on at once), by the descent of a sharp blade, impelled by a powerful mechanical arrangement set in motion by a pulley and band. Another machine acts on these pieces and cuts them out into the form of a half sole, by six or eight at a time. This is done with great rapidity, an attendant on one side supplying the

machine with material, and one on the other removing the pieces as fast as they are cut out. In order to give these the stamp of certification of their origin, the little instrument shown in the cut is employed, and by depressing the handle, the words "Gutta Percha Company" are marked upon the material, in the ordinary way of embossing.



THE SOLE-CUTTING MACHINE.

The manufacture of gutta percha tubing presents a degree of apparent complexity which the other departments passed through certainly have not. Both it and the wire covered with gutta percha are prepared in a building detached from the rest, and into which few persons are generally permitted to have entrance. In reality, however, the tube-making machine is only a new application of a very old contrivance for the production of tubes from soft substances. The Italian macaroni is made, in all essential particulars, on the same principle as gutta percha tube. The adaptation of the machine to the specific wants of the gutta is, however, ingenious, and its working is very efficient. It is, perhaps, difficult to convey a clear idea of this mechanism to a reader without the assistance of an engraving, which we have been unable to obtain, but we shall make the attempt in the following manner:—

When a soft tenacious substance is forcibly pressed through a metal tube, it issues from it in the form of a cylinder, which, if sufficiently adhesive, it retains; but if within this tube a rod of metal were fixed in such a manner as to leave an interval between it and the internal wall of the tube, then it

is evident that, in forcing any soft material through it, it would emerge as a hollow tube, the hollow being the result of the obstacle offered by the solid rod inside the cylinder. Upon this principle the gutta percha tube-machine is made.

It consists essentially of the following portions:—a cylinder, to hold the softened material; a moulding-piece, to govern the size of the tube; and a trough of cold water, into which the tube is drawn. The cylinder, which acts as a reservoir for the material, is a strong cast-iron tube, heated by steam, and furnished with a mechanical arrangement by which its contents are urged forward and presented to the hole through which the tube issues. On the cylinder being charged with a mass of soft gutta percha, the tube-drawing commences. A portion within the cylinder forces out at its opposite extremity a mass of gutta percha in a soft state, but tubular. This is gently drawn forwards into a long trough of cold water, which enters the tube, and thus prevents its collapse, and promotes its rapid consolidation. The tube, passing onwards, is drawn forward by hand, and the rapidity or slowness with which this is managed depends entirely upon the dexterity of the tube-maker; if he drew too fast, the tube would be too much thinned, and if too slow, it would be very irregular in size. The secret appears to lie in an adaptation of the speed to that of the emergence of the material. So successfully is this manufacture conducted, that a tube of this material has been made in one length of 500 feet, a circumstance altogether unknown in the manufacture of metal tubes. In order to diversify the size of the tube, it is merely necessary to alter the metal opening of the cylinder, and to substitute another with an aperture of a different size.

If our account of the tube-making machine has been clearly understood, the following description of that by which the electric telegraph wires are covered will not be difficult of comprehension. The machine, in many respects, is analogous to that used for the tubes. There are, however, two cylinders, so that when the one has discharged its contents, the other may be brought into operation so as to cause no interruption to the process. At the aperture where the gutta percha is forced out of the machine, the wire appears, being led through its centre. The machine being put in motion, the wire is drawn gradually through this aperture, and as it passes through a mass of hot gutta percha, becomes coated with it to whatever thickness the opening admits of. As it passes, it is drawn into cold water, and coiled on a drum, as before, by the attendant. There are many ingenious arrangements about this machine which it is unnecessary minutely to describe. Its efficiency is remarkable; and the thousands of miles of wire which have passed through it are already a considerable number. The wire is very evenly coated, and on a section of it the copper is seen to be very generally in the exact centre of the piece.

The only remaining manufacture which we have become personally acquainted with, is that of gutta percha solution. For this purpose a row of vertical cylinders are placed against a wall, fitted with an agitator, and capable of being warmed. Into these cylinders a quantity of gutta percha is put, with a proper proportion of coal naphtha. They are then kept in agitation until the solution is completed, when it is withdrawn, poured into cans, and a fresh charge is put in. The principal uses of the solution are for general waterproofing purposes, and also for securing the joints of articles made of gutta percha so as to complete their union. It is also largely used for the application of boot and shoe soles.

We have thus described all the more important parts of this manufac-

ture, and the information here given, being the result of a careful and repeated examination into the processes actually carried on at the works in question, may be regarded as on that account interesting and valuable, since it is not to be found in detail in any works hitherto published. Considering that the whole manufacture is one of entirely recent development, and that in a few months after the material was known in England the whole of the processes we have described were begun to be practised, it must be admitted that, next to the wonderful properties of the material itself, our admiration must be excited most strongly by the ingenuity and talent which has developed the steps of its manufacture.

CIVILITY NEVER LOST.



"WHY did you not make a bow to those ladies when you passed them?" said Frank Masters to his companion Joe Burns.

"Bow to them?" repeated Joe, "why should I? I don't know who they are."

"Nor do I, but that does not signify," returned Frank; "they are ladies, you may be sure, and our betters, and we ought to show them respect."

"How do I know that they are ladies?" said Joe; "ladies are not likely to be walking here; and I am sure they are not so fine."

"It don't follow that they are not ladies—and real ladies too—for all that," returned Frank. "I should sooner think that they are, for that very reason that they are not so fine; but I'm certain, quite certain, that they are ladies."

"What makes you so sure?" demanded Joe. "I should like to hear how you know real ladies from others."

Frank was puzzled for an answer. It is not always easy to convey to others the impressions of our minds, however correctly they may be formed; the mental vision may be correct where definitions may utterly fail.

"Aye, aye," cried Joe, chuckling; "I thought how much you knew about it."

"I do know though," said Frank, warmly. "There is, something—I don't know what to call it—very different in the appearance of real ladies, and those who wish to be thought such! they do not look conceited, and they don't walk proud! and when they pass you it is not because they are so grand you are afraid to push near them, but something that is so sweet and yet so—I don't mean serious, and I don't mean severe—something that makes one feel it is right to touch one's hat to them; and then they don't seem to be thinking only of themselves, for they will give you a kind look and a kind word, when the others will do neither."

"I don't see it," replied Joe; "and I won't bow to anybody till I do."

"Speak then to them," said Frank; "you will soon see then what I mean."

"I dare say," said Joe; "speak indeed! And do you suppose if you did speak to them they would say anything to you again?"

"To be sure I do," said he; "only speak properly to a lady, and she is certain to speak to you again, and speak kindly too."

"I don't believe it," replied Joe, "and what's more, I don't believe that you dare speak to one."

"I dare," said Frank firmly.

"Then speak to those ladies," said Joe.

"And so I will," returned Frank. "I am afraid we have been staying longer here than we ought, and that it must be late;" and so saying he ran after the ladies, who were thus unconsciously the subject of dispute, and advancing a few steps before Joe, who had followed him to be certain of the fact, he approached them and respectfully touching his hat, asked them if they would be so good as to tell him what o'clock it was.

Both instantly stopped. "I would willingly," said one, in a gentle and cheerful voice, "if I could, but I fear I have left my watch behind me."

"I think I can tell you," said the other; "it is two o'clock exactly." Frank thanked her. "But I hope you are not too late for school," added she, "and have been loitering your time away; if so, I must tell you it is a very bad habit to be irregular in any respect, and nothing more so than to break in upon the hours of school."

"We were not going to school," returned Frank, "we have a holiday;" and again bowing he respectfully fell back. The look he glanced at Joe clearly indicated, "I told you so;" but before he could give utterance to the words, one of the ladies called to him.

"As you are not going to school," said she, "you will perhaps show me the nearest way to Holm-corner."

"Do you mean that low piece of ground at the bottom of the Park, where the water always lies?" inquired Frank; "I know exactly where it is, but you must not go this way, it is so very wet and dirty, and we shall find the other bad enough. May he go too?" and he pointed to Joe.

Assent was given. Frank begged to take the little basket which one of the ladies held in her hand, and reaching the spot, he like a pioneer conducted them through the marshy ground, which it would have been impossible for them to have crossed without such a guide. The worst part, however, was still to be traversed. The ladies had hitherto pursued their way with the greatest good humour, laughing frequently at the dangers that they had to encounter; but they were now at a stand,—either to go forward or return was but an alternative of evils. Still their merriment was not damped, nor was Frank's courage and activity lessened through the encouragement their manner gave him.

"I did not think it was so bad as this," said he; "but never mind, ladies, we shall get through now, this way," and he directed first one and then the other. "Set your foot here—it won't give way—now here, don't be afraid;" and at last he held out his hand to the lady nearest him, which was gladly taken, and desiring Joe to do the same to the other, they both reached the dry ground without much further inconvenience.

"You are a very civil, clever little boy," said the lady whom he had principally guided. "What is your name?"

"Frank Masters, ma'am," replied he.

"And your companion's, my guide?" inquired the lady whose name appeared to be Emily.

Joe murmuringly answered her.

"Well, Frank," said the first lady, "I am very much obliged to you, and I shall still be more so if you can assist me to procure what I now see, after all our perils, it is impossible for me to procure for myself. Look at that plant."

"That pretty one growing out of the water?" asked Frank, following the direction of her finger. "O! you can never get that; and there is another like it, and another handsomer still."

"How vexatious!" exclaimed both ladies; "how we shall be laughed at when we tell the result of our adventure!"

"But you shall have them," said Frank with animation, and motioning to Joe to do the same, he turned his back to the ladies, took off his shoes, pulled up his trowsers as high as he could, and waded through mud and water to the prize. "And this, and this," cried he; "would you like this?" as other plants attracted his notice. At length he returned laden with his spoils, which he gave up with great satisfaction to the ladies, who had stood by the water's edge eagerly directing him, and who now expressed in lively terms their obligation to him, and their pleasure at the addition they had gained to their botanical treasures.

Frank was now as happy as possible, and even Joe could not but partake of his gratification; but there was a coarseness and a consequent shyness about him that made him much less prepossessing than Frank. The ladies were conducted by a drier path on their return, though the guidance and skill of the boys were not more necessary than acceptable. Before they had reached the direct road, however, much of the family history of Frank had been divulged. He had five brothers and sisters, all younger than himself; two of them were very sickly, and his mother worked night and day; only himself went to school, and he helped his mother in the evening to teach the little ones to read. His father was out of employ, in consequence of the death of a gentleman in whose service he had been for some years, and he was now trying to get the under-gardener's place at the hall; if he succeeded, all would be right, his mother said; they should have good wages and a cottage, and many other advantages; but a great many were after the place, and his father was very much afraid he should miss it, for he had nobody to speak for him to the Duke, who was a very kind gentleman, or to the Duchess, which would be better still, for, though such a great man, he would not refuse her anything; if he had, there might be a chance, his father thought, of his getting the situation.

"Do you know the Duke when you see him?" asked one of his attentive auditors.

"No, ma'am," replied Frank. "I never saw him that I know of, nor any one else at the hall, for they have not been here for a good while till now."

"And who teaches you the good manners which I must say you possess?" demanded she. "I was pleased with the way in which you bowed to me when we met you first, and surprised, I own, at your companion's rudeness."

"O! mother teaches us to do *that*," replied Frank; "she often says, disrespect is not a single fault, there must always be something wrong at the root of it; and that it is a proof of ignorance, if not of what is a great deal worse."

"Your mother is a sensible, and, I make no doubt, a good woman," said she; "but did she ever tell you on what grounds she says so?" Frank was at a loss for an answer. "Then I will do so myself," continued she; "your mother knows well that it is God who appoints different stations in life. No one, however, is so lofty as not to have a superior, in order that there may be room in the heart of all for humility and for respect. A deficiency in these qualities argues a proud spirit, which God abhors; or a discontented one, which is open rebellion against him. Our duty is to give to all their due, 'honour to whom honour, custom to whom custom,' and that not as to men alone, but as to the great Judge of all. The marks of deference, therefore, which your mother commands you to show your superiors, that of touching your hat and speaking respectfully, are not only proofs of civility and politeness which you owe to every one, but of a rightly directed heart and a regard to your duty."

Frank listened with profound attention, but neither dared to reply nor to take his leave. He was silently wishing that the ladies would tell him to go, and thus relieve his embarrassment, when, turning an angle of the road, a gentleman came suddenly upon him. "I began to be uneasy about you both," said he, hastening to them. "When I heard where you were gone and without any one with you, I was coming in search of you. But whom have you here?"

The ladies now laughing recounted their adventure, and the assistance they had received from the boys, but particularly from Frank. "And now," said the lady, whom Frank ever after called *his* lady, "you have an opportunity of speaking to the Duke yourself in favour of your father, or if you prefer it, I will do so for you." Had all chance of success depended upon his son, Masters would certainly have failed, so completely was the poor boy overcome with surprise and alarm. The Duchess smiled.

"This little boy's father," said she, addressing the gentleman, "has applied for poor Tomkins' place as under-gardener, and I must entreat you to bestow it upon him. The conduct of children is a pretty sure evidence of the character of the parents, and I have seen and heard enough of his to prepossess me in their favour."

The Duke shook his head and smiled. "You are apt to be partial," said he. "What says Lady Emily?"

"That I cannot possibly interfere with the Duchess' wishes," replied she. "I must give my vote, too, in favour of our little guide's father."

"Now run away and tell your mother," said the Duchess, "that as soon as she is settled in her new cottage, I will come and see her."

Frank needed no second bidding, but the moment he was out of sight and hearing, he exclaimed, "Didn't I tell you, Joe, they were ladies? What a good thing it was that I did as mother bid me!"

A FABLE.

ONE day, when Sol had well nigh set,
 And evening fast was closing in,
 Cupid and Death by hazard met
 Together, at a country inn.

Death to the north, it seems was bound,
 Love to the south ; at either's back
 A quiver hung, wherein were found
 Their fatal weapons of attack.

Each, as he entered, took his place,
 And fell to chatting and to quaffing ;
 Till Love, beholding Death's grim face,
 Went almost in a fit for laughing.

At length he managed to repress
 His mirth, and frankly owned its cause ;
 Begged pardon, but he must confess
 He never saw such lantern jaws.

Death fired at this ; high words ensued,
 And words had shortly turned to blows,
 Had not the landlord stayed the feud,
 At no small risk to his red nose.

This done, ere long the foes retired,
 And soon forgot their wrath in sleep ;
 But first, the landlord they desired,
 Under his charge their arms to keep.

It chanced, this worthy, half asleep,
 The weapons changed ; and so next morning
 Love's back was helped to Death's grim heap,
 And Death's to darts of strange adorning.

Since then, alas ! it has been found
 That Love seems best with age to thrive ;
 When life runs low, he deals his wound,
 And lights his flame at seventy-five.

Death, on the other hand, strikes those
 Whose cheeks are rich with beauty's bloom ;
 And twenty seems the destined close
 Of hearts that least deserve the tomb.

The world is thus turned upside down ;
 Love aims—and Death is in the blow :
 Death fain would kill—his shaft has flown,
 And age grows young with Cupid's glow.

 INCONSISTENCY.

CHARLES II., hearing Vossius, a celebrated writer, but a freethinker, repeating some incredible stories of the Chinese, turned to those about him, and said, " This learned divine is a very strange man—he believes everything but the Bible."

PERFORATED ROCKS.

THE powerful action of the sea upon rocks and cliffs is displayed in various ways. When the rocks are of granite or other hard stone, huge blocks are sometimes torn off or removed from their native beds, and thrown to a considerable distance on the land; but when the rocks are of limestone, or such comparatively soft material, they are often worn and perforated into a variety of remarkable forms. In some places the waves have scooped out caverns of great extent and beauty; in others the limestone cliffs have been broken into columns of various shapes, frequently resembling towers, arches, &c. The wearing action of the waves is chiefly upon a space marked by the rise of the tide, and is greatest at the mean level of the sea. The limestone gives way to this incessant washing in angular fragments, which, after being worn down by the rolling of the surf, are finally deposited in beaches of shingle at an elevation corresponding to the highest rise of the tide.

When one of Captain Franklin's exploring parties were sailing along the shores of the Polar Sea, they found that the cliffs and points of land in Franklin Bay presented many caverns and perforated rocks formed by the action of the waves, and ornamented by graceful slender pillars, strongly resembling the windows and crypts of Gothic buildings; these "exhibited so perfect a similarity to the pure Gothic arch, that had Nature made many such displays in the old world, there would be but one opinion as to the origin of that style of architecture."

In certain parts of a line of coast, masses of harder rock may occur, and these serve as a sort of rampart against the inroads of the ocean, which are wearing down the rest of the coast. In one of the Shetland Isles, the Atlantic, when provoked by wintry gales, batters against this sort of wall with all the force of real artillery, and by repeated assaults the waves force an entrance for themselves.

Dr. Hibbert, in his description of these isles, says that the Isle of Stenness, exposed to the uncontrolled fury of the western ocean, presents a scene of unequalled desolation. In stormy winters, huge blocks of stone are overturned, or are removed far from their native beds, and hurried up a slight acclivity to a distance almost incredible. One winter, a tabular-shaped mass, eight feet two inches by seven feet, and five feet one inch thick, was dislodged from its bed and removed to a distance of from eighty to ninety feet. Another much larger mass had been borne to a distance of thirty feet, when it was shivered into lesser fragments, some of which were carried still farther, from thirty to a hundred and twenty feet. Such is the devastation that has taken place amidst this wreck of nature. Close to the Isle of Stenness is the Skerry of Eshaness, formidably rising from the sea, and showing on its westerly side a steep precipice, against which all the force of the Atlantic seems to have been expended: it affords a refuge for myriads of kittiwakes, whose shrill cries, mingling with the dashing of the waters, wildly accord with the terrific scene that is presented on every side.

That resolution which grows cold to-day,
Will freeze to-morrow.

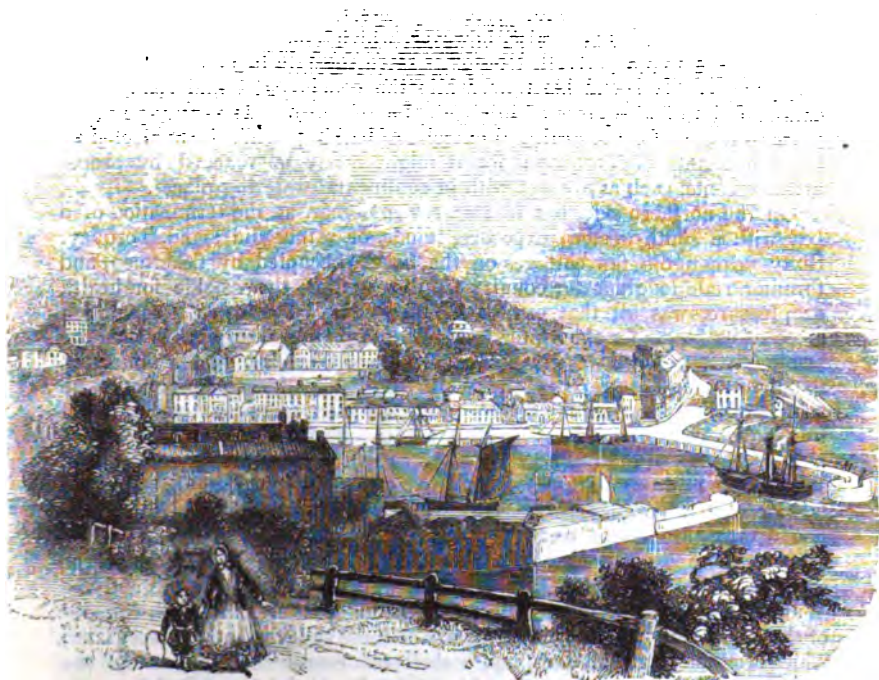
MASSINGER.

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TORQUAY.



ON the south coast of Devonshire, half-way between the rivers Dart and Teign, lies the beautiful and far-famed Torbay. Two bold headlands, Hope's Nose on the north, and Berry Head on the south, distant nearly six miles from each other, form the extreme points of the bay. The bay itself, in its general configuration, pursues a path in the direction of the principal points of the compass, having its northern, western, and southern sides bounded by the coast, while the eastern or remaining side is open to the waters of the British Channel. But this rigid form of the shore is most agreeably broken by smaller bays and inlets, and these are again diversified by precipitous rocks, by the pebbly beach, and by firm and extensive sands.

VOL. II.

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From the margin of the sea an undulating country spreads itself until it reaches the foot of gentle hills, which, covered with a verdure never fading, complete a scene which justifies the admiration of Napoleon, and the more recent praise of the historian, Macaulay.

The depth of the bay, measured due east and west from the line through Berry Head and Hope's Nose, is four miles and a half, and the length of the irregular coast which connects these two horns of the bay is estimated to be not less than twelve miles.

Three principal places lie upon the shores of Torbay. Brixham on the south, famous for its fish-market, and for being the landing-place of the Protestant William. The large straggling village of Paignton occupies the centre of the western side of the bay. From the bay, and from many points of view on the land, this village forms an important feature of the landscape; but a near inspection diminishes the favourable impression which the distance made, and except its venerable church, once open to the sea, but now surrounded by ill-contrived buildings, there is nothing in Paignton worthy of notice. The praise, however, which the works of man cannot claim, is due to its unrivalled beach. Here the idle lover of nature may always agreeably spend his time, while the conchologist and sea-botanist cannot fail to find sources of intellectual amusement. It is strange that a place so formed for the healthful exercise of bathing should be neglected by the inhabitants of Torquay; for it might easily be reached by proper arrangements, such as are met with in continental watering-places.

On the northern side, but in its western corner, at the termination of a bay with a south-western exposure, stands, or rather did stand, Torquay. Sixty years ago a few cottages on the beach, occupied by fishermen, and forming rude lodgings for country families seeking the sea-side for health or pleasure, was all that existed of Torquay. Soon after a reputation arose of its fitness for the winter residence of invalids, whom it was then the fashion to expatriate to Nice, Montpellier, or Madeira. This fame was found to be no false report; and while English winters were found to be robbed of their severity, any defects of climate were more than compensated by English comforts and by English habits. But we are wandering from our description of the place itself, while we are pointing out its advantages. Let us then approach Torquay from the sea-side, as it is thus that its form is best seen. Torquay Proper consists of a small portion of level ground bounded by three hills; on the left hand rises Waldon Hill; in front of the spectator, supposed to have his back to the sea, is the Braddons; on the right hand is Park Hill. Two valleys, one between the Braddons and the Waldon Hill, and the other between the Braddons and Park Hill, run out of this plain, but so sinuous is the course of these valleys, that the level land, which was the origin of Torquay, is sheltered from every wind except the turbulent but warm south-west. Above this level plain, and looking over the bay, is built a terrace; and higher still, detached villas with charming gardens and shrubberies fill up the scene, which forcibly brings to our imagination a natural theatre, the lower ground being the stage and parterre, while the terrace and villas may be mentally occupied by the more aristocratic spectators.

Experience has shown that the benefits to be derived from a Torquay climate are not limited to the narrow space which we have just described; that the higher situations are not more exposed to the south-western gales than the less elevated ones, while they are equally sheltered from the north and east. A dry subsoil, an entire freedom from marsh and running water

(beautiful in the eye of the poet, but to the man of fact redolent with sewers and corruptions), are the natural advantages of the district on which are placed the (now) old and the modern Torquay.

The valley to the right of which we have just spoken pursues its way through the public gardens of the town, towards Bishopstowe and Babbicombe; but before we can traverse it, our attention is called to the Meadfoot district, with its beautiful villas and noble crescent. Within the last seven years the speculative energies of man has created on this spot a town, to which there is no parallel in England, nay, scarcely any in Europe. From almost all the residences in this part of Torquay the views are most interesting, but from the higher ones they are strikingly beautiful. From many of these spots we can command a view of the Channel, of the whole of Torbay, backed as it is with hills covered with wood, of Torquay, and of the distant Dartmoor Hills, blue, but conspicuous on the horizon, while the foreground is filled up by the reverse of Park Hill and the wood that skirts the Daddyhole plain.

Torquay has no antiquities; how can a town not sixty years old have such? but its neighbourhood contains some very interesting relics. The Norman door of Paignton Church, the ruins of Compton Castle, the remains of Berry Pomeroy, the Chapel at Tor Abbey, and the Church at Cockington, well repay the lovers of ancient architecture: and even if some of these be inferior to the edifices of other places, the charms of their romantic and picturesque situation will make up any deficiency.

The taste which is shown in the private residences at Torquay has not till of late been exhibited in public buildings; in fact, till lately there were no public buildings. Recently, however, there have been built a town-hall, an infirmary, and the new church at Upton. The town-hall exhibits great skill in overcoming the natural disadvantages of its contracted site. The fine interior of Upton Church is admirably adapted to its pious uses; but the church still wants its tower and spire, which, when completed, will make it a marked feature in the architecture of the town.

The old church at Tor, as to its exterior, interior, and situation, is almost every thing we could wish for in a parish church—save that it is too small for the large population around it.

The neighbourhood of Torquay possesses many objects of high interest to the lover of nature; and most of these lie within a walk or at most an hour's drive. But to enumerate these would be to take upon ourselves the task of a guide or of the compiler of a hand-book. But we may remark on the wonders of Kent's Cavern, the vestiges of a state of nature very different from what we now see to exist. The walks in the neighbourhood of Itham, constructed by the Bishop of Exeter and Mr. Barlett, call for the thanks and the admiration of the pedestrian. One of these, overhanging the sea and passing over and under rocks, excites both astonishment and delight; while the shrubs and trees, green in the spray of the sea, make us forget that we are in England, and carry us to the shores of the Mediterranean.

Bishopstowe, the residence of the Bishop of Exeter, built in the Italian style of architecture, is charmingly situated. The visitor to Anstey's Cave must feel how harmoniously it combines with the natural scenery in which it is so strikingly placed. Near this enchanting spot is Babbicombe, and further on is Watcombe, from which, if we return to Torquay by Stoncy Valley, we shall be almost satiated with scenery.

Although it is scarcely within our province to institute a comparison between the climate of Torquay and of other places visited by the invalid,

and by those who wish to shun the severity of more northern situations, yet our brief notice would be incomplete without some mention of the subject. The professional opinion of Sir James Clarke, not an interested witness, is however at hand, and is undoubtedly of the highest authority. "Torquay," says Sir James, "is certainly drier than other places, and almost entirely free from fogs. The drier state of the atmosphere probably arises in part from the limestone rocks which are confined to the neighbourhood of this place, and partly from its position between the two streams, the Dart and the Teign, by which the rain is in some degree attracted. Torquay is also remarkably protected from the north-east winds, the great evil of our spring climate. It is likewise well sheltered from the north-west. There is scarcely a wind that blows from which the invalid will not be able to find a shelter for exercise either on foot or horseback . . . The selection will, I believe, lie among the following places as winter and spring residences :—Torquay, Undercliffe, Hastings, and Clifton, and perhaps in the generality of cases will deserve the preference in the order stated."

A long series of observations has been made at Woodfield, the residence of E. Vivian, Esq., by that gentleman, from which it appears that the mean annual winter temperature is 44° at Woodfield, and 46° in the more sheltered portions of the town, a temperature far higher than the general average of the kingdom.



MEADFOOT TORQUAY.

We must now conclude this sketch of Torquay, but to some of our readers the following details will not prove uninteresting. Torquay is itself in the parish of Tor, or Tor-Mohun. The principal part of it belongs to Sir Lawrence Vaughan Palk, Bart.; the remaining part to Mr. Cary, of Tor Abbey. The parish of Tor-Mohun was anciently called Tor-Brewer, from a family of that name, said to be descended from Richard Bruer, or Brewer, a follower of the Norman Conqueror. Lord William Brewer, founder of

Tor Abbey, Baron of Torbay and Totnes, is supposed to have been born at Tor. This nobleman was distinguished by the confidence of four sovereigns, Henry II., Richard I., John, and Henry III. He had extensive estates in Devonshire and Somerset. Henry III. gave him wardship of Reginald de Mohun, Lord of Dunster, who afterwards married Alicia, fifth daughter of Lord Brewer, and so came in possession of Tor Brewer. Reginald de Mohun left two sons, Reginald and William: the former, by exchange with his brother, came in possession of Tor-Brewer; he built the chapel adjoining the court-house, and died in 1257. The name of the parish was at this period changed from Tor-Brewer to Tor-Mohun, which it still bears.

At the Reformation, the manor was bought by John Ridgeway, whose grandson in 1662 was created Earl of Londonderry; and Lucy, one of the co-heiresses, brought it by marriage to Arthur Marquis of Donegal. The Earl of Donegal in 1768 sold the manor to Sir Robert Palk, Bart., grandfather of the present baronet.

A VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—No. IX.

SYDNEY.

THE Sydney people are early risers; and it is a very common thing to see a number of livery-attended turn-outs raising the dust of the Domain at six or seven in the morning. This Domain is one of the most beautiful spots imaginable; in some respects it is not unlike Mount Edgecumbe at Plymouth, but the ground is not so high. On it, as we have mentioned, the Government-house is built, the gardens of which are open to the public from sunrise to sunset; and the pleasure of a ramble through them is



GOVERNMENT-HOUSE, SYDNEY.

enhanced by the music of the band of the regiment quartered there, which generally plays every day upon the lawn. The flower garden contains, in a high state of perfection, varieties of every beautiful flower that you may

have seen at home, and numbers of those which are indigenous, and, consequently, new.

The botanical garden also forms part of the Domain, and is also an object of great attraction. Here are all those plants and trees which cause one's imagination to take flight to distant parts; the air is loaded with a delicious perfume, and the only sounds you hear are those of the sea rippling on the neighbouring beach, and the constant song of the myriads of locusts that occupy the surrounding trees and shrubs. These gardens, from their delightful situation, their proximity to the city, the pleasant walks they contain, the great variety of rare shrubs and flowers and trees they produce, and the fine views they command, have been much frequented on holidays by all classes of the community since 1837, when they were thrown open to the public on Sundays by Governor Sir George Gipps. The Upper, or, as it is sometimes called, the Middle Garden, was planned as early as 1812 by Mrs. Macquarie, and formed out of the wild bush, under the superintendence of Mr. Alexander Fraser, botanist. In 1832, James Busby, Esq., introduced into the colony a great variety of vines, which were planted in this garden; and it has since occasionally continued to receive fresh accessions of flowers and trees from many countries. This garden is known by the magnificent specimen of the Norfolk Island pine which adorns its middle walk.

The lower, and more extensive and beautiful garden, separated from the upper by the walk leading from the fort along the Government bathing house, and occupying the circular sweep of the head of Farm Cove, was not in existence when Lieut.-Gen. Sir Ralph Darling assumed the government of the colony in December 1825. The spot which now smiles in all the loveliness of a highly cultivated garden was then nothing but thick bush and bare barren rocks. But by the direction of the governor, and the persevering skill of Mr. Fraser and his botanical successor, Mr. Richard Cunningham (who was lost in the bush in one of Sir Thomas Mitchell's exploring excursions), this desert and solitary place was soon made to rejoice and blossom with shrubs and flowers of the richest hues. Both the Upper and Lower Gardens were much extended and beautified, from 1833 to the present year, under the able superintendence of the late Mr. James Anderson, botanist, who effected greater improvements on them than all the former botanists together.

Through another part of the Domain is formed a most excellent drive, and several beautiful walks, in extent more than three miles; these are cut through the bush (or, as we should call it in England, the wood), and delightful peeps of the town and harbour, with its beautiful islands, are constantly recurring. And here are seen an immense variety of the most elegant wild flowers peeping out from the beautifully broken ground, birds of lovely plumage seeking for food, and multitudes of those exquisite insects which are so highly valued by the entomologists at home.

The climate is very delightful. The heat is certainly greater than it is in England, but it is of a different kind, and never causes that depressing and suffocating sensation so frequently experienced there. It is, on the contrary, what has been aptly called an "exhilarating heat."

A branch of the harbour of Port Jackson, called the Parramatta River, is navigable for something like twenty miles, and affords to the Sydney "cockneys" their "Battersea," "Putney," and "Richmond," although under different names.

Along the banks of the river from Sydney, to the town of Parramatta,

a distance of about fifteen miles, and particularly in the vicinity of Kissing Point, almost equidistant from either, there are numerous orchards, orangeries, vineyards, and vegetable gardens, which give a pleasing variety to the wilder parts of the natural scenery, and supply the Sydney markets with a multiplicity of their rare productions. In the town of Parramatta there is little of the bustle and stir of business, that give such life to the metropolis; but the traffic on the river is very considerable. Besides the number of boats and vessels of small burden employed in the conveyance of produce, fire-wood, and other marketable commodities, there are several steam-boats that ply daily between the towns. Parramatta is more a place of retirement than of business. Its distance, too, from Sydney being so easy, the scenery all the way so delightful and refreshing, and such facility and rapidity of conveyance being afforded by the steamers, it is not surprising that a trip to it by water should form an agreeable recreation on Sundays, to those who are confined to sedentary and unhealthy occupations during the week.



PARRAMATTA RIVER, AND COCKATOO ISLAND.

The above view is taken from the high grounds of Balmain, overlooking Parramatta River, near the road through the bush to Sydney, round the head of Darling Harbour, and not far distant from Birch Grove, the delightful seat of Captain McLean, Principal Superintendent of Hyde Park Barracks. The spectator is supposed to be looking north-east. In the foreground of the picture we have a specimen of the Bush scenery that prevails along the banks of Parramatta River and Port Jackson. The *eucalyptus*, or gum-tree, is the most common production of the soil; but it is found associated with many others, such as the acacia, in great variety, the iron and stringy barks, the apple-tree, the tea-tree, the native oak, the cedar, the grass-tree, and a great diversity of flowering shrubs. In the neighbourhood of Sydney the wood is generally of stunted growth, but in

many parts of the colony it flourishes in much greater perfection, and rises to gigantic size. The sketch given will convey some idea of the soil and native productions of Balmain, and of the amount of labour that must have been required, with such materials, to form the large, populous, and thriving village, or rather town, which now rises amidst the rocks and brush of this once wild region.

The little singularly-shaped islet, floating on the water to the left, swelling out at the extremities, and depressed towards the centre, is called Spectacle Island, from its faint resemblance, or rather its want of resemblance, to a huge pair of spectacles; and the point of land on the opposite shore is denominated Pulpit Point, from its equally fanciful resemblance to a pulpit. This species of nomenclature has been very fashionable in the colony ever since its establishment. It has been practised by our discoverers of districts and rivers, for the purpose of gratifying the vanity of the governors, or other officials of the time; but to show that it is a practice "more honoured in the breach than the observance," we have merely to contrast the fine euphonious native names that have been retained, such as Woolloomooloo, Parramatta, Illawarra, &c., with such commonplace appellations as the Hunter, the Murray, the Patterson, Gipps' Land, Spectacle Island, Cockatoo Island, Goat Island, Pinchgut, the Bottle and Glass, the Hen and Chickens, and the Sow and Pigs!

The principal feature in the illustration, however, is Cockatoo Island, which is still used as a prison-house and house of correction for those reckless and misguided men, who having been originally transported to this colony for offences against the laws of England, are now undergoing the penalty of a second conviction for having outraged the laws of Australia. The buildings on the island are the work of the prisoners. Those seen on the left are the soldiers' barracks, capable of accommodating fifty men, to the right of these stand the convicts' barracks, with suitable accommodation for three hundred prisoners, and further to the right is the residence of the superintendent and his assistant. In addition to the erection of these buildings, and of some cells for solitary confinement, the labour of the prisoners has been directed to the excavation from the solid rock of several extensive siloes, for the preservation of grain. These siloes are air-tight, and so spacious as to cover nearly 100,000 bushels of wheat. The experiment has proved quite successful; for the grain has been found sweet, and in nowise deteriorated, after two years' exclusion from the light of day.

The island has a bare, desolate appearance, since the trees that had flourished upon it for centuries have been cut down, and their places supplied by white walls and sand-stone buildings, which, with the barren rocks on which they stand, now glare in the sunbeams, and afford no cool refreshing shade for the eye of the spectator. Only a few of its ancient inhabitants, those lofty tufted gum-trees to the right, are left standing as melancholy records of the ruin that has been wrought by the hand of civilization, on the pictorial appearance of the island.

Soon after the discovery of the eastern part of New Holland, by the immortal Cook, the British Parliament determined to establish a penal colony on that coast, at Botany Bay. The object which the Government had in view confessedly was, to rid the country of the load of criminals that was accumulating in her gaols, to find a suitable station for the safe custody, the punishment, and reformation of these criminals; and from such materials, as well as from the emigration of free settlers, to form a British colony, a new dependency of the British Crown. A fleet of eleven

sail was accordingly fitted out, and put under the command of Captain Arthur Phillip, R.N., Governor of the new colony, which was established, as we have mentioned, at the end of Sydney Cove, on the 26th day of January, 1788. During the administration of Governors Phillip, Hunter, King, Bligh, and Macquarie, or from 1788 to 1821, the system of convict discipline in the colony was, in its leading features, very much the same. With the exception of those retained as domestic servants for government officers, the rest of the prison population were employed in government buildings, experimental farms, or road-making. The great abundance of free labour at the disposal of Government, during the long administration of Governor Macquarie, is sufficiently attested by the incredible number of public buildings which he erected, and the extensive lines of communication which he opened to some of the principal agricultural districts of the colony.

The era of free emigration, which commenced to flow steadily in the early part of the government of Sir Thomas Brisbane, altered in some measure the prevailing system of discipline. Then commenced the judicious and beneficial assignment system, which at once relieved the Government of the burden of supporting a large number of its superabundant prisoners, and furnished the free settler, at a cheap market, with abundance of labour, to clear and cultivate his land, to manage his stock, and supply his establishment with domestic servants. This system, which continued in operation till within the last few years, like all human systems, had its evils as well as its benefits. It was certainly beneficial to the Government and the settler; but it did away with the uniformity of discipline that formerly prevailed; it left the punishment of the assigned man too much to the caprice of his employer; and accordingly, while many criminals, by mild and humane treatment, have been thoroughly reformed, many, it is to be feared, if we can believe their own dying confessions, have, by tyrannical treatment, been driven to the bush, to prey upon their fellow men, and finish their career on the scaffold.

While on the subject of the convict population, it will, perhaps, be considered a grave omission, if we do not allude to the existence of a deep and wide-spread feeling, that these colonies should no longer be made the receptacle for the scum of our gaols. This feeling has developed itself in the most energetic manner. A league has been formed, on a similar principle to the Anti-Corn Law League, and called the Anti-Transportation League. Meetings have been held in all the three south-eastern colonies, and in Van Diemen's Land, and resolutions passed breathing loud war against the home government, should they persist in corrupting their society longer against the will of the colonists, and reproaching it with "holding out the word of promise to the ear, and breaking it to the hope." Money has been extensively subscribed to carry on the agitation, and thirty citizens of the city of Melbourne put down their hundred guineas each to promote the cause to which they have set their hands. There can be no question that the labour of the convicts in making roads, and constructing other public works, in the early years of the colony, was of essential service to its progress; but there can also be no manner of doubt that the colonists themselves are the best judges of the time when they can afford to dispense with this contaminating and pestiferous assistance; and due intimation of this having been given to the authorities at home, and the latter having recognised the validity of the argument by promises to abstain, and yet continuing in spite of their promises to send ship load after

ship load of felons, the colonists have evident cause for the energetic nature of their proceedings ; and justice being on their side, there can be no doubt whatever of their ultimate success. The Government however have, it is right to state, already sent out an expedition to New Caledonia, and other islands in the Pacific, with a view of selecting a convenient place for the future reception and punishment of convicts ; and now that the discovery of gold in such abundance in these colonies renders it of still greater importance that reckless and unscrupulous criminals should be kept as far away as possible from places where, under the most favourable circumstances, the administration of justice is attended with great difficulty, and society has a sort of natural tendency to throw off all restraining fetters, and level every distinction but that of physical strength ; it is probable that the authorities here will think twice at least before despatching another cargo of crime to a place where its presence will be so eminently dangerous and impolitic.

MICHAEL ANGELO.

LORENZO the Magnificent reigned over Florence. In his palace and gardens was a fine collection of antique marbles, busts, and statues, which the princely owner converted into an academy for the use of young artists. Michael Angelo was one of the first who, having obtained the reluctant consent of his father, was received into this new academy. This was a great gratification to the youth. He had hitherto devoted himself chiefly to drawing, but the sight of the many splendid works of art in the Medicean gardens determined him to turn his attention to sculpture. He was then not quite sixteen.

Whatever Michael Angelo did, he tried to do well. With the fervour and the energy natural to his character, he now began first to model in clay, and then to copy in marble, some of the works of art before him. They were surprising productions for one so young.

Having found one day the statue of a laughing faun considerably mutilated and without a head, the youthful artist resolved to try if he could restore to it what was wanting. He succeeded admirably. Lorenzo, who often visited the gardens, was much struck with this display of genius, and inquired whose work it was.

"It is executed by one of Ghirlandajo's pupils," was the reply. "He and Granacci were the two he deemed most worthy of entering your academy, Signor. His name is Michael Angelo."

"I should like to see the youth," observed Lorenzo, who stood gazing at the statue ; "there is great talent and genius here."

Michael Angelo was summoned.

"So, Angelo," said Lorenzo the Magnificent, "I perceive you have a taste for sculpture ? That head does you credit."

Michael's dark eyes glittered. "It is a noble art !" he replied with enthusiasm. "By allowing me the honour of entering these gardens, excellent Signor, you have, as it were, raised a new spirit within me."

Lorenzo smiled. A great lover of the art of sculpture himself, he was pleased with the youth's evident devotion to it.

"Do you prefer it then to painting ?" he asked.

"I do," replied Michael Angelo. "It is to me so much more wonderful and sublime."

"I see you have not exactly imitated the original in that head," observed

Lorenzo ; "the lips are smoother, and you have shown the teeth. But," he added with a smile, "you should have remembered, Angelo, that old men seldom exhibit a complete set of teeth."

He passed on ; and the young artist, who paid no less respect to the judgment than to the rank of Lorenzo, was no sooner left to himself, than he struck out one of the teeth, giving to the part the appearance of its having been lost by age.

On his next visit, Lorenzo, seeing this, and equally delighted with the disposition as with the genius of his young pupil, at once determined to take him under his especial patronage. "Angelo," he said, "your perseverance and improvement merit my regard. In order to give you every advantage, I am willing to receive you into my own service, undertake the entire care of your education, and bring you up in my palace as my son. What say you?"

What could Michael Angelo say to such a generous, flattering proposal ! With heartfelt gratitude he thanked his noble patron, and then spoke of his father.

"I will see your father on the subject," said Lorenzo. "I trust he will not object to my wishes."

He sent for the old man, and gained his consent to the plan on condition that he himself should receive an office under government. Accordingly, Michael Angelo was lodged in the palace of the Medici, where he remained for three years. He was ever treated with paternal kindness by Lorenzo, and had the advantage of associating with the first literary characters of the age.

But Michael Angelo, with all his genius, was not of a very amiable disposition. His temper was proud and haughty ; his speech too often contemptuous and sarcastic. He felt his own great powers of mind, and too frequently indulged in satire towards those who were not so gifted as himself.

Lorenzo the Magnificent died, and Michael Angelo, thrown on his own resources, studied more diligently than ever. Secluded, temperate and frugal in his habits, stern and unbending in his character, he suffered nothing to divert his mind from that on which it was set—his improvement in the art of sculpture.

About this time there was some sensation caused amongst the lovers of the fine arts in Rome, by the arrival in that city of a statue of extraordinary beauty. It was a Sleeping Cupid in marble ; and great was the admiration bestowed upon it.

"It is a genuine antique," said one grave connoisseur in such things ; "there is no mistaking it."

"Certainly not," observed another ; "how infinitely superior it is to anything which art in this day is capable of producing !"

"It was found in a vineyard near Florence, I understand," said a third ; "a peasant, while digging, came upon this exquisite proof of ancient skill and genius. It is a pity the arm has been broken off. The Duchess of Mantua much desires it for her cabinet, I hear ; but the Cardinal San Giorgio has already purchased it at a high price. He is charmed with its beauty."

"My friends," said a nobleman, as he entered the hall with hasty steps, "what do you think I have heard just now ? that this 'real antique' which has so delighted us all, is the work of a young man of two-and-twenty, residing at Florence !"

The group found the statue actually started with surprise.

"Is it possible?" they exclaimed; "has one in our own day executed this splendid work! It is marvellous! Are you sure you are not imposed upon, Ricciardi?"

"Quite sure. The young sculptor has produced the missing arm, and given undoubted proofs of his veracity. The cardinal has invited him to Rome immediately."

"And what may be the name of this young man?"

"His name is Michael Angelo."

During his first residence in the imperial city, Michael Angelo, surrounded by so many beautiful remains of antiquity, applied to his studies with unceasing energy and increasing diligence. He executed several works, which added greatly to his reputation, particularly a group called the *Pietà*, which is now in the church of St. Peter's, at Rome.

A little time after the *Pietà* had been fixed in its place, the young artist went one afternoon to consider the effect of his work. As he stood before it, surveying it with a critical yet partial eye, and with a consciousness that he should yet do greater things than that, two strangers entered the church. Struck with admiration at the beautiful group presented to their view, they expressed, with Italian warmth and fervour, their great and unqualified approbation.

"What an exquisite work!" cried one. "Truly it is a masterpiece! What form! what proportion! what excellent grouping! I never saw anything to compare with it!"

"Wonderful!" said the other, after contemplating it for some time in silent admiration. "What a mind must the man have who executed this! Who is the sculptor?"

"One from Bologna; at this moment I remember not his name."

"Nay, my friend, I rather think he is a Florentine. Surely I have heard so."

"You are mistaken, Bernandino; I am convinced Bologna has the honour of being his birthplace; I shall bethink me of his name directly."

"Well, any one in Rome can tell us that, fortunately. There is a young man here will set us right, perhaps."

"Ah! let us not ask him; he might laugh at our ignorance, or he might not know himself. We will find it out. The name of that man ought never to be forgotten."

"It shall not be forgotten here, at all events," said Michael Angelo, as the strangers left the church; "the *Pietà* shall not again be mistaken for the work of the Bolognese."

That night, a young man of haughty bearing entered the church, with a lantern in his hand. He approached the beautiful piece of sculpture, and smiled proudly, as in deep, indelible characters he inscribed on it, where it might best be seen—the name of Michael Angelo. This *Pietà* is the only one of his works thus inscribed.

Amongst the ruins of ancient Rome is a splendid equestrian statue of Marcus Aurelius. It is of bronze, and was originally gilt with thick leaves of gold. The attitude of the horse, and the fire and spirit displayed in it, are remarkably fine. When first Michael Angelo saw it, he looked at it for some time in silence, and then suddenly exclaimed, "Go on!"—thus stamping this famous statue with his enthusiastic admiration.

A very excellent painter lived at this time in Florence, whose name was Leonardo da Vinci. Italy was justly proud of this illustrious artist, and

Francis I. of France loaded him with favours. It has been said—but the story is a doubtful one—that he died in the arms of that monarch at Fontainbleau. Certain it is that the king held him in high esteem, and justly admired his great and extraordinary talents.

Slowly fading away from the wall of the refectory of the Church of Santa Maria delle Grazie, at Milan, is one of the most celebrated pictures of this great master. The subject is a solemn one—the Last Supper; and solemnly it is treated. The skilful arrangement of the figures, which are larger than life, and the amazing beauty of the workmanship, arrest the attention and astonish the eye of the beholder. It has thus been spoken of: “On viewing it, *one* head, one face, one attitude, one expression, comes forcibly upon the sight, and sinks deeply into the mind, till every thought and feeling is absorbed in wonder at the power which could represent so sublime a figure in so sublime a manner.”

Leonardo da Vinci, like Michael Angelo, had astonishing powers of mind. He was great as a mathematician, a mechanic, an architect, a chemist, an engineer, a musician, a poet, and a painter! From a child his singular talents attracted notice; but he had not the perseverance of Michael Angelo. His magnificent designs and projects were seldom completed. He began many beautiful and wonderful works, and then, dissatisfied with them, left them unfinished. This highly gifted man and Michael Angelo were rivals. With all their admiration of each other's genius, they were jealous of the distinction each had obtained. The haughty spirit of the one could not brook superiority, or even equality; the temper of the other was capricious and sensitive. Leonardo was many years older than Angelo, and did not feel pleased that so young a man should come forward as his competitor. One day, being annoyed at some remark made by his rival, he replied with warmth, “You will remember, Angelo, I was famous before you were born!”

HISTORY OF GUTTA PERCHA. No. VI.—(*Completed.*)

APPLICATIONS OF GUTTA PERCHA.

SUCH an extensive series of applications of gutta percha already exists, that it is somewhat difficult to make a right selection. We may commence with those of gutta percha tubing—probably the most extensively applicable article yet made of this material. These properties are thus expressed:—

“This tubing is alkali and acid-proof, being affected only by the strongest oil of vitriol and nitric acid. The most concentrated acetic, hydrofluoric, and muriatic acid, and chlorine, have no injurious effect upon it; it is also unaffected by any of the cold fixed oils, &c. It is totally impervious to wet, and may be steeped in water or buried in damp or marshy ground, without injury. It is unaffected by salt water, and therefore valuable on shipboard. It is easily repaired. In case of any stoppage, an incision can be made in the tubing with a sharp knife, and readily closed again by means of a warm iron. Amongst its peculiar properties are—

“Lightness, combined with remarkable strength (the $\frac{1}{4}$ -inch tubes having resisted a pressure of 337 lbs. on the square inch without bursting).

“It is not affected by the carbonic acid, or fixed air in water (so injurious to health in the use of leaden pipes), acetic, hydrofluoric, or

muriatic acids, alkalies, grease, &c. This remarkable property renders gutta percha valuable for the conveyance of water, lining of cisterns, &c., as it preserves the water in its natural purity, uncontaminated by the mineral poisons destructive to health, which result from the use of leaden pipes, &c.

"It is also valued for its indestructibility by wet, moisture, &c.; its peculiar power of resisting frost; the great lengths in which it can be made (50 to 500 feet) without a joint; the ease with which the requisite joints can be made; and its extraordinary power of conducting sound. Gutta percha tubing is applicable for the following purposes:—

"The conveyance of water, oil, acids, and other chemicals, liquid manures, &c.; drain and soil pipes; suction pipes for fire-engines; pump barrels and feeding-pipes; ship pumps; syphons; ventilation, &c., of mines, public buildings, &c.; for watering gardens and streets, washing windows, damping floors, &c.; ear and speaking trumpets; speaking tubes for warehouses, dwelling-houses, ships, &c., in lieu of bells; for enabling deaf persons to hear sermons, &c."

At Stirling a conclusive evidence of the singular strength of these tubes has been given. The pressure of water in that town is higher than in any other in this kingdom; the head of water being upwards of 450 feet high. This enormous pressure was withstood by the gutta percha without visible token of injury, while leather hose, strongly riveted, is rent asunder by it almost immediately, the rivets flying out, and the joints bursting.



Certainly one of the most remarkable properties of this tubing is its extraordinary power of conveying sound. The ticking of a watch has been distinctly heard at a distance of 450 feet! Perhaps one of the most singular uses of it this way has been the communication established between the top and bottom of deep mines. At a coal-pit in Monmouthshire a speaking tube, 400 feet long, has been fixed so that the miner can summon the engine-man, or hold conversation with him with complete freedom, although separated by this great depth. For churches an ingenious arrangement is adopted. A gutta percha funnel (see cut) is placed either inside (so as to be completely out of sight of the congregation), or in front of the pulpit, to which the tubing is attached, and carried under the woodwork or floor, to the pew in which the deaf person sits. The end of the tube (which is all that appears) is applied to the ear. The softest whisper in the pulpit is distinctly heard in the pew, when the ear is applied to the ivory terminal.

For medical men, tubes of this material are very useful for midnight conversation with patients outside. A number of clever acoustic instruments have also been made of gutta percha, such as ear trumpets, speaking trumpets, stethoscopes, &c.

It is also useful in various ways for splints, and a group of these which might have been seen at the Great Exhibition of 1851, is shown in the annexed cut.

The cause which appears to confer this peculiar property on gutta percha has not yet been distinctly stated; but it appears to us to lie in the non-vibratory character of the walls of the tube. Noises from without have thus little effect on the passage of the sound. Pipes of tin or wood

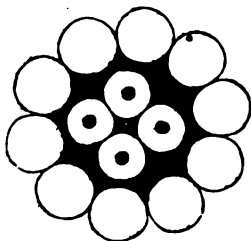
are easily thrown into vibration by any sound external to them, and the communication of the sound within would thus appear to be materially interfered with.

As a domestic telegraph, gutta percha tubing is equally valuable; and an arrangement for this object, of an ingenious kind, has been invented by a Mr. Whishaw. To this the uncouth name of the Telekoup-hanon has been given. It is simply a gutta percha tube, with a mouthpiece at each end, to which a whistle is fitted. When it is desired to call attention, the whistle is removed, and the person blows into the tube. This causes the whistle at the other end to sound, and thus directs the person to the tube, through which the order is conveyed. It is said that a conversation could be carried on without difficulty at three quarters of a mile, or even a mile.



ARTICLES IN GUTTA PERCHA.

We have already alluded to the insulation of electric telegraph wires by gutta percha; and this constitutes one of its most valued and important purposes—for, by its assistance, even the sea is no longer an obstacle to the instantaneous transmission of intelligence. The wires are generally protected by an outer coating of tarred rope, and over this by a coating of galvanised wires. The cut exhibits the appearance of a section of the submarine wires between England and France, taken from a piece sent to the writer by the Gutta Percha Company. The four central dots represent the all-important copper wires, surrounded by their covering of gutta percha; at the circumference are seen the galvanised iron wires intended to protect the rope from injury.



SUBMARINE WIRE.

It appears, from various experiments, that gutta percha is not affected by wet, or salt water. The telegraphic engineer of one of the large railways states that more than forty miles of the gutta percha covered wire, for electro-telegraphic purposes, have been laid down on the London and North Western Railway. Of this quantity, about fifteen miles have been placed underground. A portion of the wire has now been in constant use for nearly a year and a half. Up to this period, the protective influence of the gutta percha covering has been perfectly satisfactory.

For experimental purposes, some of the gutta percha covered wire has been laid in the German Ocean. It was submerged in the sea for more than a year. Where the wire was placed, marine insects eat away and

completely destroyed pine timber, of great thickness, in less than seven years. The gutta percha covering to the wire, however, remained intact, although a portion of it was fastened to timber, which, owing to the ravages of these insects, had already been renewed.

For the electrotypist, gutta percha appears to be very useful; and the following account has been published of the method of obtaining a mould of this material. Small objects, as seals, may be impressed directly, as upon sealing-wax, the gutta sheet having been sufficiently softened by heat; larger ones, not very high in relief, should be first warmed, placed on a flat surface, and sheet gutta percha, previously dipped until it becomes quite soft into boiling water, laid carefully on them, pressed with the hand into contact with their surface, and the whole then transferred to a press, and kept there until nearly cold. In default of a screw-press, heavy weights may be used to effect the object.

Printing type, wood blocks, and engraved plates, may be copied in the most perfect manner by this means, without risk of injury to the originals. In the case of type, great pressure should not be employed: the gutta, being forced too far into the interstices between the letters, forms such depressions in the mould as obstinately retain air-bubbles, and thus prevent our obtaining a perfect cast adapted to printing. If the object be in high relief, the following method is the most eligible for copying its details:—Let the gutta be boiled in water until quite soft, then carefully freed from moisture by pressure in a cloth, rolled into a ball, and assiduously pressed with the hand into all the sinuosities of the model, commencing in the centre, and gradually extending the pressure, so as to drive the air before it, until the edge is reached, when it may be transferred to the press, or heavy weights placed on it as before mentioned. Those French cigar and card cases, purses, &c., ornamented with electro-silvered copper casts, which have been lately introduced into commerce, appear to be produced from gutta percha moulds; and if this be the case, they form a very fine illustration of the capabilities of this substance in the application of the electrotype to practical purposes.

The sheet gutta percha is coming into extensive use as a substitute for sheet lead as a lining for cisterns. The simplicity of this application is quite remarkable. If we suppose a wooden cistern thus to be treated, five pieces of sheet gum are cut to the sizes for the bottom and sides: these being held temporarily in their places, bands or strips of gutta percha are softened in hot water and laid along the joints, to which they are firmly united by the application of a hot iron. The principle, indeed, is that by which the plumber solders two sheets of lead together; but the process is altogether much more facile and expeditious. For ordinary cisterns, the thickness somewhat exceeds an eighth of an inch, and such a sheet weighs six to eight pounds per square yard. There is thus a cistern within a cistern, for the gutta percha does not adhere to the wood; the wood, in fact, acts simply as a case or envelope, to keep the real cistern in shape.

With one further extract we must bring our notice of the applications of this all-useful material to a conclusion.

The late expeditions in search of Sir John Franklin have proved the value of gutta percha in a remarkable manner. Each of them took out sledge boats of this substance for use among the masses of ice. Fitted with a skate, the boat served as a sledge; floated, it would carry five or six persons with ample provision; at other times it might be folded up, or converted into a wrapper or bed-tent, safe against the cold, that three

or four men might sleep under. Its weight was only eighteen pounds. The captain of "Lady Franklin's Expedition" stated that "the gutta percha boat proved an invaluable acquisition." After undergoing all the rough work of the voyage, "it returned to England not in the least damaged, and in almost as good condition as when she left." For ordinary life-boats gutta percha must prove very useful. Beside their buoyancy, they cannot be stove in by rocks, &c.

Mr. Snow, who went out in the Prince Albert Expedition, has given a most favourable report of the gutta percha boat used in that expedition.

"The value of gutta percha as an article applied to boats, could, perhaps, never have been better tested than during the late voyage of the 'Prince Albert' in search of Sir John Franklin; and I feel very great pleasure in giving my humble testimony to its undoubted merits. Having in almost every instance had charge of the gutta percha boat, in the various examinations of the coast we made, and in rough passages through the ice, I had good and ample opportunities of giving her a fair trial, and the result was highly satisfactory.

"The first trial she received was off the Greenland coast, when we were surrounded by icebergs. I proceeded in her to a large berg, for the purpose of procuring water, and it was found that she pulled lightly, and swam as buoyantly as we could wish. The various pieces of ice that she unavoidably ran against did her no injury, and they glided past her without leaving the slightest indentation or mark of the contact.

"On the night of the 17th July I again had an opportunity of testing her qualities. In searching for the Danish settlement of Upernavick, I proceeded in her for several miles through the various inlets and channels abounding in the 'Woman Islands.' On one occasion I had her pulled up high on the rocky beach, while landing to examine, and I could not perceive the slightest mark of a scratch, from the rough nature of her bed, such as an ordinary boat would have received if I had attempted the same with it. Upon returning to the ship, we ran through a small stream of rather close ice, and I was agreeably surprised to find how quietly the gutta percha appeared to slip through it, and how well it resisted the different attacks it received. As a memorial of our visit, and the value we attached to the article of which our boat was made, the inlet we were then making our way through was called 'Gutta Percha Inlet;' a name it will no doubt always retain, and be remembered by among whalers.

"But the severest trial it endured, and endured successfully, was on both my visits to Whaler Point, Port Leopold. To those unaccustomed to the nature of such ice as was there met with, it will be impossible fully to conceive the position a boat was placed in. The mere transit to and fro among loose masses of ice, with the sea in a state of quiescence, would have been quite enough to have tested the value of gutta percha boats; but when, as in the present case, these masses were all in restless agitation, with a sea rolling in upon an opposing current, it might have been well excused—and without deteriorating from the previously attested goodness of the article—if it had not resisted the severe shocks it received. My first visit was difficult enough, but the second was far worse; and nothing but the exigencies of the service would have warranted me in attempting to force a way as I did. My dependence, however, was upon the already well-tried qualities of the boat. Sliding through and over the ice; sometimes lifted completely out of the water by the sudden contact of a restless floe, and at others thrown sideways upon an adjoining craggy piece, I

think it would have been next to impossible for any other kind of boat to have been otherwise than crushed or stove on the instant."

In detailing these applications of this extraordinary material, we have merely selected a few of the most interesting, and of those which are well authenticated. Gutta Percha enters, however, into every part of our domestic, as well as social, philosophical, manufacturing, and engineering requirements. It is not less useful in the form of soles to our shoes, than in that of bands and tubing. In an ordinary sitting-room it might form the curtain rings, the picture cord, the lining for the walls, the inkstand and pen-tray, the watch-stand, card-basket and bracket, the ornaments for the sideboard and for the ceiling, the speaking-tube to the kitchen, and the gas-pipe to the table—in short, it is a substitute for wood, glass, metal, string, and porcelain. And now that the advantages it confers are appreciated, we should greatly miss its presence if, from some unexpected cause, the supply were cut off, and this universally serviceable material denied to our use.

ASSYRIA. HUNTING.—No. III.

WE have spoken of the combats between lions and bulls, which formed a favourite subject for the embroidered borders of royal garments. In these the courage and power of the bull are well depicted in one scene, in which a lion has leaped upon his antagonist's back, and strives by tooth and talon to maintain his hold; a second bull gallops up to the succour of his fellow with threatening front. In another, the tawny savage has sprung at the throat of the bull, while another of the herd, pawing the ground with his hoofs, lowering his head, and lashing his tail to and fro, runs up behind.



LION AND BULL FIGHT.

In another, the bull bowed to one knee, by the impetus of his antagonist's mighty bound, seems in the very act of throwing up his head with a shock that will cast his foe over his back into the air; nearly in the identical attitude delineated by Captain Williamson, in his spirited representation of a combat between a buffalo and a tiger. The reproduction of these bestial conflicts with so much truth, renders it probable that they were not less common among the ancient Assyrians, as exciting shows for popular delight, than they are among the modern Asiatics.

Captain Williamson's description of the tiger's mode of fighting when opposed to the buffalo is doubtless equally applicable to that of the lion, and is very illustrative of these ancient sculptures. When at length, after

much manifestation of cowardice, the tiger “does summon up courage to oppose his assailant, he displays wonderful vigour and activity. His *claws are distended*, and wherever they touch they fail not to draw streams of blood; actuating the buffalo to the most desperate efforts, but which are not of long duration. The immense strength of the tiger *lies in his forearm*, and would prove fatal to the buffalo if there were an opportunity



TIGER AND BUFFALO FIGHT.

given for a blow to take proper effect. The buffalo being on his guard, avoids too close an engagement, but ever *keeping a front* to his opponent, rushes towards him with his whole force, and recedes with surprising celerity as soon as the tiger shows his intention to strike. Sometimes the tiger will follow and make a desperate spring, which, however, the buffalo either avoids by rapidly shifting his ground, or at the same moment, darting forward, meets the tiger with his horns.” Capt. W. has never seen a *rencontre* between a tiger and a *wild* buffalo, but from what he has witnessed of the sufficiency of a tame one, he judges that the tiger would have not the least chance in the conflict.

No trace of the dog, either as an auxiliary to man, in the chase of the wild animals, or in any other capacity, appears on the Assyrian sculptures; a circumstance the more remarkable, because in Egyptian monuments of high antiquity its occurrence is frequent, and that of various breeds,—some of which, resembling our modern scent hounds, are used solely for hunting. And the training of dogs for hunting is expressly mentioned as a recognised profession by the ancient Hindoo laws.



EGYPTIAN HUNTSMAN.

But Colonel Rawlinson found in the ruins of Babylon a fragment of sculpture representing, in beautiful workmanship, a man with a short club in his hand, and a huge dog standing by his side, with a collar round his

neck, from which a rope is held in the man's other hand. The relic, which is now in the British Museum, is doubtless of high antiquity, and may be Assyrian. The dog is a magnificent animal, belonging to that variety now known as the Thibet mastiff, the remarkable peculiarity of "the skin of the eyebrows forming a fold which runs down the sides of the face," being conspicuously preserved in the bas-relief.

This fine breed exceeds the English mastiff in size and in ferocity, but is warmly attached to its owners. It is covered with a rough hair of a black colour on the body, becoming rufous on the face and limbs; the lips are pendulous, and the tail curls over the back. A pair were brought to this country a few years ago from the Himalaya mountains, but they soon died. The race is found to degenerate if removed from the elevated regions which are their native home; it dwindles even in Nepaul. Yet this breed is probably the original of the mastiffs of Western Europe.

Besides the mention of Nimrod and of Esau, the Scriptures take little notice of hunting, except by incidental allusions, which yet are sufficient to show that it was familiarly practised by the Hebrews. "Canaan," observes Wase, "was hemmed in with deserts: there was the great Lebanon, and there was Mizpeh, and Tabor, and other mountains which abounded with game; and in the royall age, I beleeve hunting itself was much frequented; for though the sacred history do not, *ex professo*, take care to deliver us anything concerning these lighter recreations, yet the frequent representations made by it throughout the writers of that age, do give some probability that it was a frequent object among them, and taken from the common use. David's persecutions are sometimes likened to fowling, oftentimes to hunting; his enemies dig a pit for him, they set a snare to catch his feet. No authors of human learning, whose works yet survive, make so much mention of *gins* as the Pealmes have made; his enemies bend the bow, and make their arrows ready upon the string to shoot at the righteous. This was Esau's artillery. . . . David's enemies hide a net for him. (Ps. cxl. 5.) Neither was it unknown to the Jewish huntsmen the way of driving beasts by an immission of fear."

The passages in which fullest mention is made of the stratagems and devices employed in hunting are the following:—

"The steps of his strength shall be straitened and his own counsel shall cast him down. For he is cast into a net by his own feet, and he walketh upon a snare. The gin shall take him by the heel, and the robber shall prevail against him. The snare is laid for him in the ground, and a trap for him in the way. Terrors shall make him afraid on every side, and shall drive him to his feet." (Job xviii. 7—11.)

"Fear, and the pit, and the snare, are upon thee, O inhabitant of the earth. And it shall come to pass, that he who fleeth from the noise of the fear shall fall into the pit; and he that cometh up out of the midst of the pit shall be taken in the snare." (Isa. xxiv. 17, 18.)

This "fear," (the *formido*, *linea pinnata*, and *δειψαρα* *ῥηπῶν*, of the classics,) was a line of great length, to which tufts of feathers were tied; being extended through the woods, the continual fluttering of the feathers in the wind prevented the timorous beasts from passing the boundary. The same method is practised in Sicily at this day; and, what is singular, it existed just as described, among the Red Indians of Newfoundland, who hunted the wild reindeer by its means.

The "straitening of the steps" of the hunted animal, to which the Book of Job refers, whereby "he is cast into a net by his own feet," appears to

allude to the inclosing of a large space with walls of net-work or some other barrier, gradually approaching each other, until the outlet leads to an inclosure, whither the animals are driven, and where they are either captured alive, or killed by wholesale. Elephants are taken in India and in Ceylon in this manner, which has been described by Pliny and Arrian, and, in modern times, with great felicity of detail by Mr. Corse.

The length of the nets sometimes used by the ancients was astonishing. Plutarch mentions hunting-nets above twelve miles long. With these large tracts of country were inclosed, by which all the animals of all kinds therein were forced into a narrow space at the end, where the slaughter was performed.

—“*Simul hirtus aper, simul ursa, lupusque
Cogitur, et captas contemnit cerva leones.*”—STAT. *Achill.* i. 465.

Instead of the walls of nets, or of felled trees, walls of living men are often employed by the Oriental princes, who, by shouts and the clashing of weapons, force the animals onward, and hem them in, until they reach the place whither they are intended to be driven. Something like this practice was adopted in the later periods of Assyria.

The prophet Ezekiel, in his allegory of the history of Israel under the similitude of a young lion (xix. 1—9), evidently alludes to this mode of hunting, by raising the whole country against a wild beast, by inclosing him with nets, and by thus driving him into a pit, in order to take him alive for a royal show. (See especially ver. 8.) The impotent rage of “a wild bull in a net” is alluded to by Isaiah (li. 20).

A GUILTY CONSCIENCE.

WHEN Dr. Donne, afterwards Dean of St. Paul's, took possession of his first living, as he walked into the churchyard he took up a skull thrown by the sexton out of a grave, and in it he found a small, headless nail, which he drew out secretly, and wrapt it up in the corner of his handkerchief. He then asked the gravedigger if he knew whose the skull was? He replied that it was the skull of a person who had kept a spirit shop, and who, having gone to bed intoxicated, was found dead in his bed next morning. “Had he a wife?” asked the doctor. “Yes.” “What character does she bear?” “A very good one, only the neighbours reflected on her because she married the day after her husband's burial.”

A few days after the doctor paid her a visit, as if by accident; asked her some questions, and at last of what sickness her former husband died. As she was telling him the same story as the sexton, he opened the handkerchief, and cried out in an authoritative voice, “Woman! do you know this nail?” Struck with horror she instantly confessed the murder.

CLIMBING AND PARASITIC PLANTS.

SOME of the most beautiful of our wild flowers are those which creep over the branches or trees of the hedges or woods. The Traveller's Joy, or Wild Clematis, with its clusters of white blossoms; the Honeysuckle, with its elegant trumpet-like tubes; the snowy balls of the large white Convolvulus, and the fragrant pink bells of the smaller species, mingle with the tangling blue or purple vetches to form a luxuriant garland on the boughs of sturdier plants. The woodland tree is entwined with wreaths

of the black Briony, and the glossy heart-shaped leaves of this plant cover with one mass of verdure many a time-stained trunk, and give to it a grace and beauty which afford delight, not only to the lover of flowers, but to him also who regards simply the general picturesque effect of nature, without very carefully marking its details.

Yet climbing plants are by no means a characteristic of the English landscape, for they are few compared with those of tropical regions, or like those of the sunny climes of southern Europe. Our two principal climbers are the Ivy and the Hop. Were our scenery deprived of the former, we should indeed lose one of its most ornamental plants. Yet its graceful wreath is doubtless often injurious to the tree which its strong stems clasp too tightly, though on the other hand it holds together the ruined walls of the building, and preserves from utter decay. Many of our old castles and churches are greatly indebted to it, not only for beauty, but for preservation and shelter from the elements.

“Who loves not,

At happy distance to discover thus
The house of God uplift its ancient walls,
Wreathed in the verdant honours of the year?
Within that sacred fane have race on race,
The children of the upland and the dale,
Devoutly worshipped; and beneath the mounds—
The grassy mounds which stud the village yard—
Withdrawn to rest at last.”

The finest ivy, that at least which has the largest stems and boughs, is ever thus associated with past times; for if not found on the ancient walls, it is clambering over the oldest tree, and wreathing even the highest bough of the woodland patriarch with its elegant and verdant spray. Amid its shelter the blackbird and the thrush sing their earliest songs; and in its flowers, in the later year, many of the insect world find almost their only food.

The hop is less ornamental, for besides that it is not always green, it is much less frequent in our wild scenery, and perhaps is not truly an indigenous plant. Its long stems and rough leaves climb about the thickets and hedges, and their yellow clusters of cones, with their sweet scent, hang in July among our wild flowers, or in more luxuriance and strength grow amid the leaves which entwine the tall poles of the cultivated hop garden, and send forth on the autumnal air its most delicious of odours.

How different, however, from these plants are the tall climbers of the hotter regions of the world. There they reach to the tops of trees hundreds of feet high, hanging thence their glowing bells or stars. Some of the Lianas, or Rope plants, have leafless branches forty or fifty feet in length; sometimes they hang perpendicularly from the high summits of the trees, at others they are stretched obliquely like the cordage of a ship, and are climbed by the tiger-cats and monkeys with wondrous agility. In New Zealand a climber renders the forest almost impenetrable, and entwines round a gigantic tree 220 feet high. The very grasses have, many of them, a climbing habit, and wind around massive trunks. In the old world, especially in India and the neighbouring islands, grass plants of the different species of Rattan and Calamus twine to the very tops of trees, like the climbing plants of the new world, pass on to the next tree, and descending its stem to the ground, rise again towards its summit. Some of these have, on measurement, been found five or six hundred feet in length, and the longest cannot have been measured.

In South America the profusion of climbing plants is so great as almost to exclude the light; and so numerous are the flowers that it is impossible to tell to what species they belong. The Passion and Trumpet flowers, and those of the mountain Ebony trees, mingle with the orchises and plants like our arums, and with the long shaggy silver grey tufts of the gigantic mosses called Spanish Beard and the magnificent ferns. The author of "A Residence in Sierra Leone," graphically describes the appearance of those extraordinary climbers called country ropes, during the withered season. "They can," she says, "be compared to nothing else than iron, leaden, or leathern pipes (according to the rusty-grey or brown or black colour of their different barks), all twisted and re-twisted, plaited and woven, with every grotesque and fantastical form, until the whole space under the trees, as far as the eye can reach, appears occupied by a succession of enormous nets of irregularly-sized meshes; or if you could imagine the rigging of a ship in the most remarkable disorder, the ends of the highest ropes dangling down on the deck, and tying themselves in a thousand intricate knots to great lengths of thick coire, which in their turn are wound up one mast and down another in every strange and varied convolution." Sometimes, this author says, these stems look like huge serpents, while the spiral folds, in other cases, so encircle a young tree, that it looks like a wooden pillar, rich in antique carving.

In popular language, the climbing plant is spoken of as parasitic, and many a poet has sung of that "graceful parasite," the Ivy; but the botanist regards as parasitic plants such only as, growing upon living vegetables or animals, and sending down roots into their very substance, derive from it their nourishment. The climbing plants of our land and its parasitic species, though often confounded, have in fact no affinity, either in nature or in outward appearance, for none of our parasitic plants climb at all. In the tropic vegetation to which we have alluded, few of the climbers are strictly parasitic; neither are our mosses and ferns, for they are nourished by rains and dews, and such small portions of soil as may gather on the crumbling ruin, or lie amid the crevices of the bark of the tree.

With the exception of many of the Fungus or Mushroom tribe, and the green bough of the misseletoe, we have no native parasitic plant of much beauty; while our parasites are so few in number, that by omitting the funguses which require a volume to themselves, they may all be described even in a short paper. True parasites may be divided into two kinds, the first of which have green leaves, acting like the leaves of ordinary plants, and serving as organs of respiration and digestion. The only plant in our country of this description is the misseletoe, and there are but two known genera of this kind. The other is the genus *Loranthus*, which, in several countries of warmer climate, not only takes the place of our misseletoe, but, unlike this plant, is also a very conspicuous feature of vegetation, its large scarlet flowers shining amid the dark-green leaves of the tree on which it grows. Meyen describes a species of *Loranthus*, which covers with a scarlet carpet a large candelabra-like cactus, whose snow-white flowers, eight or nine inches long, projecting from it, present a beautiful object to the eye.

The other form of parasite is the one which includes most of our native kinds. In this the plants have no leaves, and the scales which are on some of their stems are either of brown or some other dim hue. The leafy-green parasites elaborate food for themselves; the brown, or scaly parasites, obtain it in a state of elaboration from other species. There is one circum-

stance very remarkable in these plants, for though many of them are exposed to the greatest light, some of them even rising up on the chalk cliffs, which on the summer day seems one of the brightest of all earth's spots, yet most of them so resist the ordinary action of light, that they never show on stem or flower either a bright-green or other brilliant tint. The brown, almost as deep as that of the withered leaf, the sickly-looking yellow tinge, the dim purple, or the dingy white, being almost the only colours which they have to exhibit. Equally remarkable is the fact, that though in many cases they fix themselves on the roots of small plants, such as the Trefoils or the Lady's Bed Straw, whose stems and flowers are so delicate, still some of them have stems two feet in height, and as thick as a walking-stick.

Among these parasites, the plants called Broom Rapes are the most conspicuous, and often do they attract the notice of the wanderers in the country. Tall, thick, succulent stems of a dim-reddish hue, having scales of the same colour, bear about half-way down spikes of flowers of dingy purple and yellow, mostly scentless; but in one species, the Clove Broom Rape, bearing a sweet odour of cloves. Ask the countryman who is working near them in the field the names of these plants, and if he do not call them Strangle-weeds, he will probably give you some local name, expressive of disgust, for it is well known that these plants destroy those on which they affix themselves. The Leguminous tribe, such as have their seeds in pods, and their flowers shaped something like that of the pea or bean, are chiefly infested by these parasites, and any of them may be cultivated in the garden if planted by the furse or broom. The largest broom rape is two feet high, and adheres not only to the roots of these plants, but also to those of the clove. On some lands in Flanders, where it is abundant, the farmer is altogether deterred by it from cultivating the clove. This kind has a large thick, fleshy, somewhat bulbous root, from which a number of brittle fibres issue. The bulb fastens itself to the woody roots of the broom; or the more fleshy roots of the clove, and the fibres clasp around it. Other species grow on the yellow bedstraw, the woolly kidney vetch, or on the nettle or hemp, the lilac scabious, or various other flowers of our high-ways and fields.

Very similar to the Broom Rapes is our Scaly Toothwort, which, however, does not grow on open plains, but hides in the deepest recesses of the woods. It is a curious leafless plant, of humble growth, with whitish scales and purplish flowers. The upright succulent stems spring up in groups of three, four, or more in number from the roots of the elm, hazel, or other trees. Not only are its colours dim when growing in the shadow of the wood, but it is remarkable that the rows of flowers which grow down one side of the stem are as often turned away from the light as towards it, contrary to the well-known habit of plants in following the light.

Mr. Dovaston, who planted this toothwort on the roots of the hazel, and after four or five years' trial of patience succeeded in getting it to grow there, remarks of it—"It will turn pink or purple when very much exposed to the light; for having cut away some of the hazel branches to bring it more in view of the walk, the sunbeams in a few days turned it so very pinky and purple, that some ladies were very much struck with the beauty and delicacy of its colours, though the plant itself is rather of a repulsive and cadaverous aspect." This flower is called by country people "Clown's Lunywort."

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CHELTENHAM.



“And bounteous Nature o’er the lovely vale
Poured forth her gifts profuse; perennial springs
Flowed for her habitants, and genial suns,
With kindly showers, to bless the happy clime,
Combined their gentle influences.”

SOUTHEY.

MEDICINAL springs have obtained a sanction for their usefulness, in the concurrence of physicians and the experience of mankind, from the earliest
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periods of antiquity down to the present time; magnificent temples were erected upon the spots where they were originally discovered, and tutelary spirits or divinities were created to preside over their administration and effects. Crowds of suffering individuals, whom the baffled physicians had relinquished as incurable, here found a fresh stimulus to their hopes, not unfrequently realized by a restoration to health—that blessing,

“Most courted, most despised,
And but in absence duly prized.”

In modern times, we find that a reliance upon the efficacy of mineral waters has increased rather than diminished, and that nearly the whole tide of professional, as well as public experience and opinion, is in their favour; and when we consider the change of scene and air, of food and drink, of rising and retiring, of exercise and conversation,—in short of the whole moral and physical conditions which surround the patient, we are not surprised at the cures in so many cases effected, the consequent popularity of such means of health, and the rapid rise into consequence of localities where they abound.

From having been from its medicinal springs thus devoted to health and recreation, does Cheltenham owe its present notoriety and prosperity; for over the whole of the spot, indeed over the whole vale of Gloucester in which it stands, an extensive forest once flourished, extending to the banks of the Avon near Bristol. In still earlier times this forest was inhabited by savage beasts, and the manor of Cheltenham had to pay to King Edward the Confessor a grant of three thousand loaves of bread, for his “dogs employed in keeping them down by hunting.” The timber of this immense district was particularly valuable, and the oaks of Dean were so widely celebrated and renowned, that Evelyn tells us, “in Queen Elizabeth’s reign an ambassador was purposely sent from Spain to procure their destruction, either by negotiation or treachery.” The valley was also once celebrated for its vines, the grapes of which were manufactured into wines, equal, according to William of Malmesbury, “to the rich and luscious ones of France.” To these the poet Drayton alludes when he remarks,

“But of her vines deprived, now Gloucester loves to plant
The pear-tree everywhere;”

and consequently the perry of the locality is now as celebrated as the produce of the vine in the days of old.

The vale of Gloucester is still beautifully wooded; its beeches and lime trees are very luxuriant, and next to the medicinal character of its springs, the picturesqueness of its neighbourhood makes Cheltenham a very popular place of residence for visitors. Leckhampton Hill, at the foot of which Cheltenham spreads, is the nearest ridge of the Cotswold Hills, and from its summit, which rises very precipitately in some parts, especially near the detached piece of rock called “The Devil’s Chimney,” is commanded a magnificent view of the widely-spreading valley, with its three centres of life, Gloucester, Cheltenham, and Tewkesbury; while, when the day is clear, still further north, across the silver Severn, the towers of Worcester Cathedral may be seen rising loftily into the air.

We find, from the mention of it in that invaluable record of our Saxon England, the “Doomsday Survey,” that when the kingdom fell into the hands of the Norman Conqueror, Cheltenham was of some little consequence; it was then a royal manor, and gave its name to a hundred as it still does. Of the condition of the place as a town, the notices are few and scanty;

but it is mentioned in the reign of Henry the Eighth as "being a large town having a market," and its fine old church is a sufficient proof that it was not merely a rural parish. When the contest broke out between Charles the First and the Parliament, Cheltenham was garrisoned for the king, and one or two encounters took place near to the then little town, of which traces are still occasionally turned up by the plough or the spade.

In 1666 the town is said to have contained 321 houses and 1,500 inhabitants, and for many years after, consisted of one little group of houses round the church, and of one long street, through the centre of which flowed a branch of the little river Chelt, from which it took its name, and which was crossed here and there by means of stepping-stones, or by a plank. The town still consists principally of one street, but this now extends upwards of a mile in length, dividing it completely into two parts; Pittville and its pleasure grounds lying on one side, and the Old Wells and Montpellier on the other. With the exception of a few branching streets out of the main thoroughfare, and one or two of inferior character running parallel with it, the rest of Cheltenham is made up of villas, terraces, squares and crescents, mingled with which, a rich luxuriance of foliage imparts a rural and verdant appearance not often to be met with in large towns.

In all the springs which emerge from the sandy vale of Cheltenham, the sulphate of soda, or chloride of sodium, predominates; so that they belong to the class of saline waters. It is worthy of notice that most of the saline springs of Great Britain take their rise in the new red-stone formation, those of Cheltenham, however, rise in a stratum of blue clay, abounding in iron pyrites which repose on the inferior oolite limestone; a circumstance which is said to account for the well-known fact that these mineral waters are strongest when first opened, and gradually decrease in strength, until it becomes necessary to sink new wells, in order to obtain water of the requisite strength. The specific gravity of the water of four of the springs belonging to Thompson's Spa, was observed to be diminished, and two to be increased, between 1817 and 1820, to such a degree as to excite the surprise of chemists. The number of springs at present is fourteen, each of which presents some slight difference in the amount of the saline ingredients and their concomitants. The most important differences are owing to the presence of iron in some, occasionally accompanied with carbonic acid and sulphuretted hydrogen. Those in which no iron exists, partake much of the nature of sea-water, and resemble it in effects, when used internally. It is sometimes advisable to change from one kind to the other, according to the state or progress of the patient; all which points are regulated by the resident physicians. The persons most benefited by the Cheltenham waters are those who have suffered by a long residence in hot climates, and also in cases of debility.

Animals in a state of disease, especially horses, are said to derive benefit from the waters, which they drink very willingly; indeed one of the old traditions of the wells tells us, that we are indebted for their discovery to a horse who was kept at grass on the spot, and who, from frequently drinking of the water, was cured of a cutaneous disease from which it suffered. Another tradition states that the water owes its discovery to the circumstance "of a slow spring being observed to ooze from a strong, thick, bluish marle, under the sandy soil, which after spreading itself a few yards disappeared, leaving a residuum of salt." This attracted flocks of pigeons, who daily resorted to the spot to partake of a condiment of which they are well

known to be so fond; and the owner of the ground, also observing that the spring never suffered from the influence of frost, was induced to have the properties of the water tested. At any rate, the inhabitants of Cheltenham believe the latter tale to be no fiction, for on the entrance to the Old Wells walk, a couple of pigeons are carved in memory of the circumstance.

The pigeons having thus discovered the first spa, in 1716, on the site of the present Old Wells, it was soon turned to the use of man: an analysis of its properties was published, but it was not until 1788 that a building was erected over it for the accommodation of visitors. In 1743, the great walk, or avenue of elm-trees, was planted, to which the growth of a hundred years has now given full stature, and entwined their upper branches into an embowered roof of charming shade. The upper end of the walk is terminated by a villa, from the front of which is commanded a fine view of the noble avenue, the spire of the ancient church of St. Mary forming a picturesque termination to the perspective view. It was here that, during the visits of George III. and his family to Cheltenham, the Queen held her drawing-rooms, receiving on the walk such of the nobility as resorted to Cheltenham for the purpose of paying their respects to royalty.

Nothing gratified the inhabitants, during the royal visits, more than the unguarded and affable manner in which His Majesty lived, conversed, and moved about among his subjects. A short anecdote on this point speaks volumes. The King one day walking up the street, the common crier (then a woman) concluded a public notice by exclaiming, "God save the King." The venerable monarch courteously turned round and emphatically replied, "God save the crier and the people."

As in 1788 no mansion existed in the town sufficiently capacious for the residence of the monarch, the seat of Lord Fauconbridge, on Bay's Hill, a little way out of the town, was rented, as the only one that could even afford scanty accommodation, and many were the shifts to which the royal family and their suite were at first put, during their residence. "The king," we are informed, "was the only man who slept in it, the male attendants being lodged in different parts of the town;" and when the Duke of York paid his royal father a visit, the wooden house, originally erected in the town, was carried to Bay's Hill, and placed contiguous to the royal dwelling for his accommodation. His Majesty subsequently built seventeen additional rooms to the lodge, at his own expense, with a view of rendering it more available as a place of residence in the annual visits which he then contemplated.

At the time of the royal visit, the old wells were the only springs then known, and the benefit derived by His Majesty from drinking the water obtained for the spa the name of the King's Well, which it still retains, though the particular spring which at that time was properly so designated has long ceased to exist.

To encourage the visits of patients to the spot, the inhabitants of Cheltenham, in a newspaper published a hundred years ago, inserted the following persuasive address:—

"Whereas the famous mineral-water of Cheltenham, in the county of Gloucester, has not been for some years past so much resorted to as formerly, from a report that the inhabitants were exorbitant in their demands, and no convenience to be had reasonably: By an unanimous meeting, consent, and agreement of the gentlemen, tradesmen, and innholders of the said town, this is to certify that all gentlemen and ladies, and others, may meet with a kind reception and good usage, with convenient lodging, and

ordinaries kept, if encouraged, at reasonable rates. Note.—'Tis a pleasant town, situate in a fine sand, in a fine air."

Then follows a long list of the various maladies to be cured by the healing water; statements which, if true, would rank it as a second Pool of Bethesda.



PITVILLE SPA.

For many years the spa at the Old Wells was the only one of any importance in the town, and as each succeeding year brought a fresh influx of visitors, the demand became greater than the supply, and proprietors of adjoining lands attempted the discovery of similar waters upon their own property. Of these, the most successful was Mr. Henry Thompson, who, at different times, discovered no less than eighty wells, all yielding a greater or less proportion of mineral water; and, in 1806, the Montpellier Spa was founded, the waters of which are of six different kinds.

In the summer of 1824 upwards of 100 acres of land, the property of Mr. Pitt, lay improprator of the rectory of Cheltenham, were sold for the purpose of building the new town of Pittville, with its pump-room, and laying-out of grounds and drives; proceedings which, according to one of the local guide-books, was done at the cost of half a million sterling. The hill on which the pump-room stands abounds with springs, and the spacious edifice itself is built in imitation of the temple on the Ilissus at Athens. It is of the Ionic order, surrounded by a colonnade, above which a tier of buildings rises, a dome seventy feet in height crowning the whole. From the gallery of this dome is commanded a panoramic view of the surrounding vale, bounded by the Malvern and Cotswold Hills, and extend-

ng on the S.W. to the mountains of Wales. Over the portico are three colossal statues of Hygeia, Æsculapius, and Hippocrates, and in the noble pump-room the water is served from a marble tripod, surmounted by a statue of Hebe.

In 1850 a new pump-room was opened at the Royal Old Wells; the grounds were restored to their former attraction, and the place is again become as popular as in the days of the good old king who first brought it into notice. From medicated baths, which occur in the town, a manufactory of the well-known Cheltenham salts is carried on.

"Seven Springs," the true source of the Thames, lies near the foot of Leckhampton Hill, about three miles from Cheltenham, and the walk to it is through a lovely green slope, called the Velvet Valley. The stream which flows from Thames Head, near Cirencester, is, by many writers, called the source of the Thames; but from its situation, so much further from the main trunk, and the greater quantity of water that constantly flows from it, "Seven Springs" seems fairly entitled to the name of the very head of Father Thames, and is now generally so considered by geographers.

For a description of the various public buildings of Cheltenham we have not space; but, as an evidence of the antiquity of the fine old church of St. Mary, we may adduce the fact that, in 1190, the chapel of Charlton Kings was dedicated to it as to the mother-church, and tradition fixes its erection 180 years previous. It is built in the form of a cross, and a square tower, rising from the intersection, is surmounted by a lofty spire. The interior retains a considerable portion of the roof loft, and in the northern aisle is a very beautiful circular window. In the chancel, a curious lavatory is preserved, and many of the monumental devices and inscriptions are of great antiquity. Amongst them are the effigies in brass, on a flat stone, of a judge, who died in the reign of Henry VII., and his wife, three sons, and seven daughters with their children.

Avenues of lime-trees shadow the walks leading to the church in every direction; and, on the north side of the burial-ground, an ancient stone cross rises from the centre of a square pedestal, on each side of which are three stone steps. This was, doubtless, one of the many "parochial crosses" which, in the days of superstition, were erected in the way leading to parish churches, in order, as we are told, "to inspire reverence for the mysteries which the people were about to witness."

Until the year 1828, the church was supposed to afford sufficient accommodation for the town, but since that period seven new churches have been built, while chapels for all the different denominations of Dissenters abound.

The country around Cheltenham unites so many requisites for a varied Flora, that it is a favourite resort for botanists. The heights of the Cotswolds favour the growth of many plants, which seldom affect lowland situations, amongst which may be enumerated the "*Fedias*," "*Asperula cynanchica*," "*Campanula glomerata*," "*Thesium linophyllum*," "*Anemone pulsatilla*," "*Astragalus hypoglottis*," "*Onobrychis sativa*," "*Hippocrepis comosa*," "*Gnaphalium sylvaticum*," and many other rare and exquisite plants; while the fine hanging woods of the hills which face the south are enriched with the "*Convallaria majalis*" and "*Convallaria polygonatum*." In the beech woods, the botanical explorer is sure to meet with the curious "*Monotropa hypopitys*," the "*Listera nidus avis*," and the beautiful "*Epipactis grandiflora*;" while the numerous brooklets, overshadowed by

underwood, offer a warm shelter for many delicate plants which could not flower in the open and exposed vale.

The botany and geology of this rich neighbourhood, in fact, well merit the attention they have received, and works on both subjects have been written and may be studied with great interest and advantage to the inquirer. Fossil remains abound, and their description forms a strikingly interesting portion of the "Geology of Cheltenham," a work published by Sir R. L. Murchison as a local guide to a subject so interesting.

A VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—No. X.

SYDNEY.—No. III.

BEFORE we leave the colony, however, let us just glance at the general features of the interior. Besides the metropolis, and the town of Parramatta, to which we have already devoted some attention, there are a large number of other towns and villages scattered over the colony, and which are all in a prosperous and improving condition. The land in the colony, generally speaking, is better adapted for pastoral than for agricultural purposes, but to this rule there are many exceptions. In various parts of the colony there are extensive tracts of land remarkable for fertility, yielding during several years in succession, without any manure, from thirty to forty bushels of wheat per acre. The Rev. Dr. Mackenzie states that he has seen three hundred bushels of wheat raised from eight acres in the valley of the Hume River, that being the third crop of wheat raised on the same land without manure; also, that he has seen *seven successive* crops of wheat raised from the same field, which had never been manured by the hand of man, and yet that the seventh crop averaged twenty-five bushels to the acre. One of the most fertile districts in the colony of New South Wales, is that called the Cow Pastures, so called from the fact of large herds of wild cattle having been found there at the time of the discovery or exploration of the district, which were the descendants of three runaway cattle belonging to a herd brought to the colony by H.M.S. *Sirius*, soon after the foundation of the colony. These pastures extend northward from the river Bargo to the junction of the Warragumba and Nepean rivers, bounded to the west by some of the branches of the latter river, and the hills of Nuttai; and they contain about sixty thousand acres, the greater part consisting of a fertile sandy loam, resting on a substratum of clay. Towards the southern hills of Nuttai the Cow Pastures are broken into abrupt and hilly ridges; but for a distance of three miles from the Nepean they consist of easy slopes and gentle undulations, from the centre of which rises a lofty hill, called Mount Hunter.

These Cow Pastures are situated in the Camden county, and are about fifty miles south of Sydney. This county is also celebrated for containing within its limits, and in immediate proximity to the Cow Pastures, the fertile, beautiful, and romantic district of Illawarra, or the Five Islands. The scenery at Illawarra is totally different in character from the remainder of the county, and also from Cumberland, the metropolitan county: tall fern-trees, having a foliage exactly similar to that of the fern-plant in this country, but whose leaves are gigantic in the same proportion in which the tree exceeds the plant in size; umbrageous cedars, graceful palm-trees, with numerous creeping vines throwing around in wild luxuriance their flowery tassels, and abounding with flights of red-crested

black cockatoos, and purple cowries—make the spectator fancy himself in some tropical region, blest at the same time with the exhilarating atmosphere of a temperate clime. The Illawarra district is not very easily accessible from Sydney by land, but there are steam vessels passing regularly twice or thrice a-week between the township of Wollongong, the port of the Illawarra district, and Sydney, and conveying the fertile produce of the district to the Sydney markets.

We annex an illustration from the Illawarra district ; its subject being a beautiful salt-water lagoon, discovered by the same enterprising explorer whose name has been transmitted to posterity in conjunction with the Strait which divides Van Diemen's Land from the Australian continent, viz., Bass's Strait. The lagoon is that called Tom Thumb's Lagoon, from Bass having passed over the sand-bar which divides it from the sea in a small boat, called the Tom Thumb. There are several lagoons of a similar character, most of them abounding in excellent fish.



TOM THUMB'S LAGOON.

With regard to the statistics of the colony of New South Wales, it may be interesting to state, that by an official document on the subject of the progress of the colony from 1840 to 1849, during which period the colony of Victoria was a province of that colony, and was therefore included in the returns, it appeared that the population had nearly doubled itself in the course of that ten years, having risen from 129,463 in 1840, to 246,299 in 1849, of which latter number 101,470 were females. The proportionate excess of males was much greater at the former than the later period, but the diminution of the disparity cannot be attributed so much to the greater evenness of the immigration during the period, as to the extended duration of female life as compared with that of the other sex, and to the fact of the children born being more nearly balanced. Of 75,481 births in the period stated, 38,310 were males, and 37,171 were

females, while of 25,821 deaths, 15,987 were males, and only 9,843 females. In deaths among adults the number of men each year is nearly twice that of women; this result being probably due in a great measure to habits of intemperance. Since 1839, the religion of the public emigrants has been recorded, and up to 1840 there appeared to have been 46,869 Protestants, 23,337 Catholics, and 79 other denominations. The schools had increased in the ten years from 167, with 9,040 scholars, to 558, with 25,642 scholars. Of these 558 schools, 222 were supported, either wholly or in part, by grants from the colonial treasury, amounting to 16,796*l.* per annum, the number of pupils in these being 15,426, of whom 6,553 are Church of England, 2,586 Presbyterian, 1,678 Wesleyan, 219 Independent, and 3,313 Roman Catholic. The number of lunatics in asylums on the 31st of December, 1849, was 315 males (chiefly convicts), and only 98 females. With respect to crime, the convictions for felony, notwithstanding the population had nearly doubled, had decreased from 662 in 1840, to 543 in 1849, and those for misdemeanour from 170 to 125. There were eight executions in the former year, and only four in the latter. Litigation, likewise, had decreased in a manner still more satisfactory, the cases tried in the Supreme Court having been 555 in 1840, and only 160 in 1849. The declared value of the imports in 1849 was 1,793,420*l.*, and of the exports, 1,891,270*l.*, of which 1,238,559*l.* consisted of wool, and 249,932*l.* of tallow. The shipping entered inwards numbered 898 vessels, with 218,967 tonnage; the total outwards being 907 vessels, with 214,056 tonnage. The revenue was 575,692*l.*, and the expenditure 516,533*l.*

As we have already intimated in the previous chapter, the subject of the gold discoveries is reserved for separate consideration, and therefore we shall not further allude to that subject in the present chapter. But as the effects produced by that discovery are essentially different in the colony of Victoria and the colony of New South Wales,—a difference partly due to the diversity of richness in the deposits of gold in the two colonies, and partly to the more consolidated condition of the latter colony as compared with its younger competitor,—it is a point of interest here to state how far the ordinary state of affairs has been affected by the new avenue to wealth which has been presented by the gold “digging.”

On this point we cannot do better than present to our readers the very excellent summary which appeared in the *Sydney Morning Herald*, of the 6th of March last, and which so completely informs us on all points with regard to the present state and future prospects of the colony, that it will be unnecessary for us to add another word.

“Our friends in England will naturally be anxious to hear, by the ships now on the eve of departure from Port Jackson, how we are getting on under the new circumstances which have befallen the colony; as we were naturally anxious to hear how the first intimation of those circumstances would be received by them. Both parties have been somewhat disappointed in their expectations. On our side it was generally thought that the tidings of our gold-field would in England be received with considerable excitement; they appear to have been received with considerable *sang froid*. On their side it was generally thought that the discovery would throw the colony into universal confusion, and put an end to all the usual pursuits of industry; no such results have as yet been witnessed. Perhaps neither party took a sufficiently comprehensive view of the facts connected with the other. On our side it ought to have been remembered that the

news would reach England just as the public mind had become exhausted by the prolonged excitements of the Great Exhibition, and was for the time in a state of *nil admirari*, on which scarcely anything could make an impression. The people had seen all the glories of the world centred in a single focus, and so dazzled had they been by the resplendent vision, that the glories of the Australian Ophir were comparatively dim in their sight. On their side it ought to have been remembered, that when the discovery was made the colony was in a state of general and almost unexampled prosperity, and when, consequently, the temptation to relinquish a bird in the hand for the sake of running after two in the bush, was not likely to be very maddening in its effects.

"It is not quite ten months since our auriferous treasures were first brought to light, yet within that brief period the colonies of New South Wales and Victoria have each shipped about one million's worth of gold, or two millions' worth in all. And when it is considered that this has been the produce of unskilled mining, of labour untrained to the peculiar employment, untaught by science, unsustained by capital; that, in our own colony at least, the number of diggers has ever borne the most insignificant proportion to the extent and richness of the field, and that every day new regions of auriferous deposit are found in almost every part of the interior, to the north and to the south, as well as to the west, our friends at home may form some estimate as to what Australia is to achieve hereafter, with a population less inadequate to the work she has to do, with the lights of science and experience to direct her operations, and with the aid of capital to give fair scope to her energies.

"And we rejoice to add, that this million of gold produced in New South Wales has been gathered without any serious detriment to our other interests, and with the least possible disturbance of public order and tranquillity. Our corn-fields have still been cultivated, our sheep have still been shorn. Our metropolitan city remains a busy scene of commerce, and stately edifices are rising up in her streets. Our mining operations have assumed the character of settled industry; our gold is collected without bustle or confusion, and securely carried to market by the regularly established Government escorts, at a moderate expense to its proprietors; while the quantities brought to town and shipped for exportation are as systematically reported in the newspapers as those of any other of our raw productions. The admirable order which has all along been maintained at our diggings, not by military restraints, but by the good sense and moral rectitude of the great mass of the diggers themselves, is indeed a just cause of pride to the colonists, and ought to encourage thousands of our fellow-subjects at home to come over and help us.

"We need their help; our flocks and herds are increasing, while the labour-market is exhausted. Wages have consequently advanced at rates averaging on the whole somewhere about thirty per cent. We have ample employment for many thousands of British immigrants, provided they be men who can really give a good day's work for a good day's wage. We do not want loungers; neither do we want any more of that swarming class of young gentlemen who can do nothing but sit on a stool and handle the quill. Of these we have always more than enough. But persons accustomed to hard work, whether mechanical or rural, and persons having money to invest, whether of large amount or small, will find in New South Wales a finer opening than any other part of the world presents, and than was ever before presented by any colony under the British Crown. Let

them remember that for mildness and salubrity our climate cannot be surpassed; that our soil is capable of producing all that man requires for sustenance, and most of the luxuries that he prizes; and that at the time our gold fields were discovered, the colony, with a population of less than 200,000 souls, possessed above 100,000 horses, 1,500,000 horned cattle, and more than 8,000,000 sheep; yielding an annual revenue of 600,000*l.*, and exported of her own produce or manufactures to the extent of 1,100,000*l.* per annum, altogether irrespective of her gold. Coupling these facts with the 'great fact' mentioned above, that in ten months we have shipped a million's worth of our new-found product, the fruit of peaceful industry, and the earnest of a still brighter future, our friends in England must admit that our shores have strong attractions for all who think it better to emigrate than to stay at home."

MICHAEL ANGELO.—No. II.

It was announced one day in Florence that the wall of the great council hall was to be painted in fresco; and the artist who produced the best cartoon should be appointed to the work. Michael Angelo and Leonardo da Vinci, equally desirous of the honour, resolved to compete for it. Each prepared his cartoon; each emulous of the fame, and fully aware of the extraordinary abilities of his rival, threw all his best powers into his work, determined, if possible, to surpass himself. It was a deeply interesting contest—a struggle for fame between the two first artists of the age. Each chose a different subject, and each, bending all his energies to the task, succeeded in producing a wonderful specimen of his peculiar skill and genius.

The cartoons, when finished, met with the highest admiration; but the preference was given to that of Leonardo da Vinci.

From all parts of Italy the young artists flocked to study these magnificent compositions.

The wall of the council hall was, however, never painted. It is said that Leonardo spent so much time in trying experiments and preparing the wall, that at length, changes in the Government occurring, the design was abandoned.

The Pope at this time was Julius II. Though seventy-four years of age, he was impatient of contradiction, fiery in temper, full of magnificent and ambitious projects, and of a most energetic cast of character. He sent for Michael Angelo.

"I wish thee to erect a splendid monument to my memory," said he; "thou art well able to perform the task; see thou doest me justice."

The sculptor commenced his work, and the pontiff was delighted.

"Thou hast wonderful abilities, assuredly, Michael Angelo," he said to him one day, as he watched him with eager interest, "how thou doest make the marble fly, man! Truly, it is as if thou wert angry with it for concealing the statue! There is something of my own energy in thee, Michael. But I hear thou art as great with the brush as with the chisel!—Come with me; I have a work for thee to execute in that way also."

"If your Holiness will allow me to finish these strokes first," said Michael Angelo, quietly going on with his task.

The impatient Pope was compelled to wait the sculptor's pleasure, and then he carried him off to the famous Sistine Chapel.

"See here!" he exclaimed, as they entered the building together, "this chapel, erected thirty years ago by Sixtus the Fourth, is not yet completed. Though the walls are decorated, the ceiling remains without an ornament. This should not be. Thou must paint it in fresco, Michael Angelo."

The artist gazed upwards at the enormous vault, and then replied, "Your Holiness requires a great work and a work of time."

"Great! that is the very reason I give it thee!" said the pontiff; "what is work to one like thee? thou canst do anything thou wilt. This ceiling is, as perhaps thou knowest, one hundred and fifty feet long, and fifty broad, and I desire that thou shouldst represent thereon a series of subjects connected with sacred history, so as to cover the whole space. Canst thou—nay, I need not say *canst* thou, but wilt thou undertake the work?"

The great master paused one instant, and then replied, "I can, and will."

"That is well," said the pontiff; "but at what art thou gazing so earnestly, Angelo? What dost thou see in that painting of Ghirlandajo's?"

"I see the hand of my old master, your Holiness, but yet should scarcely recognise it. How inferior is this to his later productions! how continuous and steady was his improvement!"

"So it should be," replied Pope Julius: "what have great artists to do but improve? Now, think over thy designs for this ceiling, Angelo; great as thou art already, I prophesy this will add somewhat to thy renown."

Michael Angelo continued his work on the mausoleum, till the Pope, prejudiced by one of the artist's enemies,—and he had several,—no longer visited him as formerly, and neglected to supply him with the necessary funds. Not being able on two occasions to obtain access to the pontiff, and having been treated rather superciliously by one of the servants, Michael Angelo's haughty spirit rose.

"Go," he said, to one of his attendants, "and take this message to the Vatican;—that if his Holiness desires to see Michael Angelo, he must send to seek him elsewhere than in Rome.—Now, Urbino, dispose of my property; sell my goods to the Jews; I leave for Florence to-day."

He started for that city, but had not proceeded many miles on his road, when, one after another, five couriers arrived from Pope Julius, with commands, threats, persuasions, and promises, to induce him to return, but in vain; Michael Angelo turned a deaf ear to all they said, and determinately continued his journey.

He had not been long in Florence, before three more messengers came from the pontiff, insisting on his return; but the inflexible artist absolutely refused. "Inform his Holiness," said he, "that I have accepted a commission from the Sultan of Turkey to build a bridge at Constantinople. I therefore cannot comply with the wishes of his Holiness."

Then the Pope wrote to Soderini, who was at the head of the government at Florence, commanding him, on pain of his extreme displeasure, to send Michael Angelo back to him. Soderini, fearing the pontiff's anger, at length, with difficulty, prevailed on the offended artist to return, but not till three months had been spent in vain negotiations.

The Pope was at supper, in Bologna, when a servant informed him Michael Angelo had arrived.

"Oh! at last! bring him instantly to our presence!" he exclaimed in an impatient tone. "He shall answer for this conduct!"

"What does this mean!" continued the fiery old pontiff, as Michael Angelo appeared before him; "instead of obeying our command, and coming to us, thou hast waited till we came in search of thee!"

"Pardon me, holy father," said Michael Angelo, falling on his knees, and speaking in a loud voice, "my offence has not been caused by an evil nature; I could no longer endure the insults offered to me in the palace of your Holiness."

He continued kneeling, and the Pope in silence bent his angry brows upon him, wishing to forgive, doubtless, if he could do so without losing his dignity. At this moment, a bishop who was standing by, thinking he could mediate between the parties, observed in a pitying tone, "It is through ignorance he has erred, poor man; pardon him, holy father; artists are ever apt to presume too much upon their genius."

"Who told thee to interfere?" said the irascible Pope, bestowing on him at the same time a hearty blow with his staff, "it is thou that art ignorant and presuming, to insult one whom we delight to honour; take thyself out of our sight!"

As the terrified prelate stood speechless with amazement, the attendants led him from the room. Then Pope Julius, turning to Michael Angelo, said in a mild voice, "We grant thee our forgiveness and our blessing, my son; but thou must never again leave us. Be obedient to our wishes, and at all times, and on all occasions, thou shalt have our favour and protection."

A short time after this extraordinary scene, Pope Julius, ever willing to employ the talents of the great sculptor, commanded him to execute a colossal statue of himself for the front of the principal church in Bologna. It was in bronze; and Michael Angelo threw into the figure and attitude so much haughtiness and resolution, and gave such an expression of terrible majesty to the countenance, that Julius, when he saw his character thus portrayed, could not help smiling.

"Am I uttering a blessing or a curse?" he said to the sculptor.

"It is my wish to represent your Holiness as admonishing the people of Bologna to submission," replied Michael Angelo.

"Good!" said the Pope, gazing well pleased on the statue; "but what wilt thou place in my hand?"

"A book, may it please your Holiness."

"A book, man!" exclaimed the old pontiff, "put rather a sword; thou knowest I am no scholar."

"Now then, Michael Angelo," said the energetic Pope Julius on their return to Rome, "thou must forthwith commence the decoration of the vaulted ceiling in the Sistine Chapel."

"Should not the mausoleum be first completed?" said the artist, who preferred the practice of sculpture to that of painting, and much desired to decline the task assigned to him.

"By no means," replied Julius; "there is no hurry for the monument; I am yet alive and vigorous; but I wish to see the completion of the chapel. I desire that the pontificate of Julius the Second should be remembered."

"It is a grand task, and should be grandly executed," said the artist. "Some other hand than mine may give your Holiness satisfaction. There is Raphael——"

"He is otherwise engaged for us, thou knowest," said the Pope in an angry tone; "I tell thee, Michael Angelo, thou, and none else, shalt perform the work; so say no more concerning it."

The painter, fearful of again incensing the pontiff by opposing his will, reluctantly submitted to it; and deeply impressed with a sense of the vastness and grandeur of the task committed to him, commenced his cartoons. As he was then inexperienced in the mechanical part of the art of fresco, he invited from Florence several eminent painters, to execute his designs under his own directions. They, however, could not reach the grandeur of his conceptions; and, disappointed and vexed, Michael Angelo one morning, in a fit of impatience, turned them all out of the chapel, destroyed all they had done, and determined to execute the whole himself. He accordingly shut himself up, and with incredible perseverance and energy proceeded to accomplish this great work alone, even preparing the colours with his own hands.

When the ceiling was about half completed, Pope Julius, whose impatience to see it had been very great, insisted on admittance to the chapel. The sublime and magnificent performance which met his eye when he entered, excited his deepest admiration and astonishment.

"Thou hast actually surpassed thyself, Michael Angelo!" he exclaimed with delight; "great as were my expectations, this exceeds them all!"

Two or three persons had found admission with Pope Julius into the chapel, and unrepressed and ardent were their expressions of delight and surprise also. But there was *one* who in silent admiration gazed upwards, who comprehended better than any other the extreme grandeur and beauty of the painting. This was a young man of graceful form and handsome expressive features. With dark eyes and luxuriant hair, he had so sweet and serene a countenance, as to be termed by some, "angelic." His face was a mirror of the mind within. Bright, talented, generous, and gentle, he possessed the most attractive manners with the most winning modesty. So amiable was his disposition, that "not only all men, but the very brutes loved him; the only very distinguished man of whom we read, who lived and died without an enemy or detractor."

Yet, young as he was, and modest as was his disposition, from one end of Italy to the other his name was known and celebrated. For this was "the prince of painters"—one whose fame eventually filled the world—Raphael Sanzio d'Urbino.

The quick glance of Michael Angelo soon noticed the young artist; and when Pope Julius had departed, he approached the spot where he stood, lost in admiration. There was no rivalry between them then. Michael Angelo, though, in general, he cared not for praise, and despised flattery, could appreciate the genius of Raphael, and was not indifferent to his opinion. It was needless to ask it on this occasion; the speaking countenance of the young artist was enough. With infinite sweetness and candour he thus addressed the great master, older than himself by some years:—

"I can but be thankful," he said, joy flashing from his eyes, "that I am born in the same age with so great an artist as Michael Angelo, and may be enabled to profit by the grand creations of so sublime a genius!"

Michael Angelo was satisfied. He valued those few words more than all the commendations of Pope Julius II. And well he might; for who could judge like Raphael? what painter has ever equalled him?

Pope Julius, anxious to secure the talents of such an artist in his service, had invited, or rather ordered, Raphael to Rome, to decorate the chambers of the Vatican. The Vatican is the palace of the Pope. It contains four thousand apartments, twelve great halls, eight grand staircases, and two

hundred lesser ones, a corridor about a thousand feet in length, a museum, and an immense library of 80,000 books, and 24,000 manuscripts. But the chambers decorated by Raphael are the glory of the Vatican. Those sublime paintings, the rich creations of his wonderful mind, have been the admiration of all ages.

With renewed energy Michael Angelo now continued his work in the Sistine Chapel; but rapid as was his progress with it, it was not rapid enough to suit the impatient pontiff.

"Thou art slow, man, thou art slow!" said he one day to the indefatigable artist; "we desire to see this great work completed in our lifetime, but at this rate of progress—tell me, *when* dost thou intend to finish it?"

"When I can," calmly replied Michael Angelo.

"When thou canst!" exclaimed the fiery old Pope; "surely thou hast a mind that I should have thee thrown from the scaffold."

"Then should I *never* have the honour of completing it for your Holiness," quietly observed the artist.

The wishes of Pope Julius were, however, gratified; and not long after, the ceiling was uncovered to public view.

In the incredibly short time of twenty-two months, Michael Angelo had performed his sublime and magnificent task! The Sistine Chapel was opened; and when the people of Rome, by hundreds and thousands, poured in to view the artist's work, their delight and admiration knew no bounds. With reverence and astonishment they gazed at it, and pronounced it unparalleled in the history of art.

The following year Pope Julius II. died, and was succeeded by Leo X., son of Lorenzo the Magnificent. This was the Pope who permitted the sale of indulgences, or pardon for sins, against which Luther so boldly protested.

You have heard of the Church of St. Peter's, at Rome? Those who look upon it cannot sufficiently admire the vast genius and majestic intellect of the man who was its chief architect. That man was Michael Angelo. Wonderful as a painter and a sculptor, he was yet more wonderful as an architect. St. Peter's may be pronounced the most magnificent structure ever raised by man.

When remuneration was offered the great master while engaged on the building, he constantly declined it. "No," he said, "I am employed in a work of piety; and for my own honour and the honour of God, I refuse all emolument."

On leaving Florence, to build the dome of St. Peter's, Angelo turned his horse round to contemplate once more, in the grey of the morning, the beautiful city and its far-famed cathedral. He gazed long on the glorious cupola, rising from amidst the pines and cypresses, and then said, with a feeling of the deepest admiration, "Like thee I will not build one; better than thee I cannot!"

His tomb, in the Church of Santa Croce, was marked out by himself, in such a manner that from it might be seen, when the doors of the church stood open, that grand and noble edifice.

The character of Michael Angelo was no common one. To the last hour of his life—and he lived to be very old—he was striving after excellence in his art. Ever endeavouring to improve, with resolute energy of mind and purpose, he was still pressing on to his standard of perfection. In allusion to his own infirmities, this mighty master made a drawing,

representing an aged man in a go-cart, with these words underneath, — *Still learning*.

The father of Michael Angelo had no reason to fear his son's disgracing their once noble family. The acknowledged worth and genius of that son, — his wide-spread fame and unblemished integrity, — combined with the haughty reserve of his deportment, invested him with a sort of princely dignity. Men vied with each other in doing him honour; the nobles of the land stood uncovered in his presence. The Popes Julius II., Leo X., Clement VII., Paul III., Julius III., Pius IV., and Pius V., alike esteemed him, and gladly availed themselves of his talents in ornamenting their capital city. It is said, that when he waited on Pope Julius III. the pontiff rose at his approach, and seated him on his right hand; and whilst proud prelates and cardinals, and lordly ambassadors, stood round at humble distance, he conversed with Michael Angelo as equal with equal.

This great man died in the eighty-ninth year of his age. His energy and perseverance never forsook him, and his mind was strong and clear to the last.

CLIMBING AND PARASITIC PLANTS.—No. II.

THE Fir Rape, or Pine's Bird's-nest, is said by some writers to be a parasite on the roots of the fir. It has a leafless but scaly stem and brownish flowers, all turning one way, and scented with a fragrance sweet as that of the blossoming bean. Its external appearance resembles our parasites, but it is a rare flower, and botanists differ in opinion respecting its parasitic nature. Linnæus says that it is in Sweden given as a medicine to sheep. In our country most of the orchises grow in the soil like other plants, but two native species are thought to be parasites. In the hotter regions of the globe this beautiful tribe of plants are found no longer seeking their nourishment at the base of the tree, but clinging among its boughs or growing on its trunk, or merely hanging amid the branches, living on, though dis severed from all root. Countless thousands vegetate there on trees, stones, and bare rocks, among the ferns and mosses.

Many writers have described the exceeding beauty of these flowers, and we may see something of it in the species which hang down among the plants like fairy wreaths in the English hot-houses. Flourishing by the sides of springs and rivers, or in the deep shadow of the forest, their slender boughs are covered with blossoms, which sometimes resemble an insect, sometimes a helmet, sometimes a grinning monkey. As Dr. Lindley has remarked, so various are their forms, so numerous their colours, and so complicated their combination, that there is scarcely a common reptile or insect to which some of them have not been likened. A whole tree is sometimes overrun with a single species, and the traveller cannot penetrate through the dense masses of their flowers and foliage. Henschman saw the beautiful orchis, commonly called the spread eagle, clasping enormous trees, and covering them from top to bottom.

These orchises are not truly parasitic plants, but are termed by botanists *Epiphytes*, as they derive their sustenance chiefly or entirely from the atmosphere. No such glow is given by our orchises to the woods and groves, though some of them, like the bee ophrys, and fly ophrys, resemble insects; and many of them have flowers of great beauty, and others of rich perfume. The reader will not expect that the species said to be parasitic should be beautiful, and perhaps it is as much from their dim and dull

appearance that they have been considered parasites as from any other cause, since some botanists affirm that specimens which they have gathered were not found on the roots of other plants.

The common bird's-nest orchis is one of them. It is of reddish-brown colour, and would at first sight be taken to be a withered flower. Gerarde says of it, that its colour is that of the "dry oken leafe, that hath been under the tree all the winter long." Examine this plant, however, and you soon perceive that it is not withered, but is full of juices. It is common in many of our woods during May, and its root, unlike that of our orchises in general, consists of fleshy fibres only at an early stage of its growth. It is, probably, parasitic. The root of the other orchis, said to derive its nutriment from others, consists of fibres, which, resembling branches of coral, gave to it its name of coral wort. This spurless coral wort has a greenish stem, with scales rather than leaves, of a greenish-white colour, and pale yellowish-green blossoms. It is a rare plant of the marshy Scottish woods, and is found on sandy places near the sea.

Whether or not the two plants just named are parasites, there is one whose mode of growth is easily examined, for we may gather it any day in August or September. This is the Dodder. The walk over the heath will repay any trouble which we have in searching it out, for it is at this season beautiful in all its riches, of its nodding blue-bells and fragrant thyme, and its sheep's-scabious and purple heather, and the yellow flowers of the tormentils which stand up among its grasses. The golden beauty of the broom is almost over, but the never-bloomless furze is still a spot of attraction to the bees which are humming amid its delicate yellow flowers. Look closely down into the furze-bush, and you may see there little clusters of flowers not its own, and tangling red threads winding all about its prickly boughs, so that it is impossible to separate any portion of the plant without breaking these brittle cords. The small, wax-like flowers, though they have little colour, have yet a faint blush of pink, which renders them very pretty, and their texture is very succulent. The dodder is leafless, and is to be found throwing its network of red threads around many other plants, besides the brier and furze. The heath, the thyme, potentillas, the milk vetch, all share in its coils, while there are some species which are parasitic on thistles and nettles; and the flax dodder, which is supposed to have been brought into this country among clover seed, is parasitic on the flax, and very destructive to the crops. The seeds of these plants germinate in the soil, and the shoots climb on to the stems near them. Then they take root and dis sever themselves altogether from the earth, greatly injuring the plants to which they attach themselves, and often, in course of time, totally destroying them, acquiring in country places a variety of evil names which we should be unwilling to record.

Such are our parasitic plants, for the Mistletoe alone remains to be noticed. This plant is an ornament to the leafless tree, when its bough hangs in winter decked with pale-green leaves and pearly berries, which now and then the storm-cock, or mistle-thrush, comes to peck, and which deck our rooms at Christmas. Nor are the trees of our native woodlands the only ones which it ornaments. Many trees on the Continent are far more profusely covered with it, and Kalm says that it grows also on the Tupelo, or sweet gum-tree, as well as on the lime and oak of South America, so that their whole summits are, in winter, often quite green with it; while an allied species, the fibrous mistletoe, is found in abundance in Carolina, and is used by the inhabitants, not only to adorn their

houses, but to supply the place of straw in the mattresses, and to pack goods destined for travelling. Cattle are also fond of it. Thunberg, too, saw the Cape Misseltree everywhere growing on the trees in Caffria, where its berries were eagerly sought by the birds.

Our misseltree may be seen in winter, when snow is on the ground, often crowning the high part of lofty trees, or hanging like a green bush among the lower boughs. It is not uncommon, especially in fertile districts. It grows on various trees, but it is with us more frequent in orchards than in woods, as it seems to prefer fruit-trees, particularly the apple, to others; though the hawthorn, maple, poplar, lime, ash, and several trees besides, are sometimes adorned by it. The misseltree of the oak was the plant held in so much request by the Druids, but it is remarkable that the plant is not now found wild on our oaks. This has led some writers to suppose that the misseltree so favoured by these ancient priests was one of the species of the *Loranthus* (*Loranthus Europæus*), as this plant is peculiar to the oak. If so, this plant must, in earlier ages, have existed in Britain, and it has been suggested that, as all vestiges of the religion of the Druids seem to have become extinct with themselves, so the *Loranthus* has disappeared in the places where that religion formerly held its sway. It is rather remarkable, however, that Mr. Dovaston once saw our misseltree growing well on an oak tree, and that too in Anglesey, in the park of Lord Uxbridge; and, what is more singular, hanging almost over a very grand Druidical cromlech. It has been thought by some writers that the Druids cultivated it on the oak; though Mr. Dovaston, who got it to vegetate on twenty-three kinds of trees, found that it soon died on all, save the apple and hawthorn.

It is not wonderful that the misseltree should, in those dark ages, have excited some mysterious veneration. Growing when other plants decayed, and vegetating in a peculiar manner, there was something mysterious about it. The missel-thrush, or storm-cock, is said to aid greatly in its propagation; but this is ridiculed by Lord Bacon as an idle tradition. He says that the sap, which produces the plant, is such as the tree doth excrete and cannot assimilate. That the bird aids, however, by depositing the seeds on other trees to which they adhere by their slimy covering, there is little doubt.

At no period does this plant take root in the soil, and the mode of its striking its roots into the woody substance of the tree is very remarkable. It is commonly said that when a seed is placed in the soil, its stem rises upwards and its roots tend downwards, which is true of plants sown in earth. The fact, however, that the misseltree, in whatever direction its seeds may be placed, sends the fibres of its root upwards, downwards, or sideways to the centre of the bough, seems to prove that the direction of the roots should rather be termed central than downwards, and that of the stem outwards rather than upwards.

The misseltree yet decks our Christmas homes in memory of the past; and though we no longer call it all-heal, or deem its berries valuable as a remedy for any ill, yet is it a pleasant record of older practices. No longer do we believe with our fathers that the sylvan spirits will take shelter from nipping frosts and biting winds among its boughs; no longer do we cut it with the golden knife, and mutter dark and superstitious words above it. Even the old custom of sending it round to the houses to herald in the new year, though retained in France, is forgotten in England; and it is only in the places remote from towns that the youthful party frolic

around it. Yet we rejoice to see its pearly berries on our winter mantel-pieces, and to keep up such associations with the past as the unpoetic spirit of our age has yet left us.

“And, therefore, do we deck the walls with green,
There shines the holly-bough with berries red,
There, too, the yule-log’s cheerful blaze is seen,
Around its genial warmth and light to shed ;
Round it are happy faces, smiles that spread,
A feeling of enjoyment calm and pure,
A sense of happiness home-born, home-bred,
Whose influence shall unchangeably endure,
While home for English hearts has pleasures to allure.”

A. P.

 SO CHEAP !

It is a great art and a most essential one towards the comfort and success of a family to know how to spend money well. Economy is true riches ; but it is no uncommon error in the best-meaning persons to mistake its nature. They grasp at the shadow, and thereby lose the substance, even when in their own belief they have the fullest cause to congratulate themselves on the attainment of their object.

“For goodness’ sake let me sit down,” cried Mrs. Coles, throwing herself into a chair, and letting a large parcel fall from her hands to the floor. “I have not a foot to stand upon. I think I never was so tired in all my life ; but I would not go home without first showing you what will make you envious or I am greatly mistaken ; one or two of my bargains. Things were so cheap to-day at Ball & Nixon’s ; it is hardly to be credited ; you might have almost everything you could think of, and, I do declare, almost for nothing. Dear me ! how sultry it is ! there must be thunder in the air,” and untying her bonnet strings she wiped her face.

“We shall have no storm, I think,” returned Mrs. Mitchel. “I was only saying a minute or two ago how cool and pleasant it was. But I was taking a cup of tea when you came in ; will you have one too ?”

“That I will and be thankful for it,” cried she. “I have had a hard day’s work of it, I promise you. I don’t care though for that : I have got such nice things, and so cheap ! I long to show you *something*.”

“I hope I may like your present bargains better than I have done many others that you have shown me,” replied Mrs. Mitchel, setting the cup of tea before her.

“I am sure you will,” exclaimed she ; “I have no fear of that. You must,—you can’t help liking it ; I only hope you won’t wish to take it off my hands ; for I can’t do that this time, even to you. This is an excellent cup of tea, but it is so hot !” and the services of the spoon were put into no small requisition nor with trifling velocity. “I can’t drink it at present ; I am hotter than ever ;—there, it will cool now ;” and she poured part of the contents into the saucer. “No, nothing to eat, thank you. So as I have nothing to do, I must show you this print ; I can wait no longer, Isn’t it a beauty ? And what do you think I gave a yard for it ? guess.”

“I am afraid,” said Mrs. Mitchel with a smile ; “next to nothing, or perhaps nothing.”

“Not quite that,” replied Mrs. Coles. “But only think ; it was no

more than fourpence a yard, or two and threepence the dress. I never saw the like, did you?"

"It is indeed a very low price for it," returned Mrs. Mitchel: "for it is good of its sort. It is wonderful how it could be manufactured for such money."

"Then I am right this time," cried Mrs. Coles, exultingly. "I thought you would say so. And it is so very pretty! I have not seen anything that takes my fancy so much for a good while."

"But do you want it?" asked Mrs. Mitchel. "Mary had a pretty frock on last Sunday, new to me; and you, you can't have worn your best gown half a dozen times."

"Want it!" repeated she. "No, not at this very moment. We are well supplied, thank goodness, for the summer. But we *shall* want it by-and-by if we have good luck. And this print is so very pretty, there was no resisting it."

"If you do not want it, and want it you certainly by your confession do not," said the other, "then, cheap as it is, it is not cheap to you."

"That's what you are always saying," returned she in a tone of vexation. "Times and oft have I said I never would show you again what I had bought. I do think, neighbour Mitchel, you take a pleasure in throwing a damp on one's own satisfaction."

"You wrong me there," replied she; "it is the furthest from my thoughts or wishes to disappoint any one; but, to be honest, prudence is to me what a love of cheapness is to you."

"And what's that?" demanded Mrs. Coles.

"The rule of my life, and an every day's guide," answered she.

"Pooh! is that all," said Mrs. Coles; "I expected something wonderful was coming by your way. You are so very particular. If I don't want it now, what does it signify, I maintain. I *shall* want it, and be glad of it too. It will eat no bread by being laid by."

"Indeed, but it will," said Mrs. Mitchel.

"How do you make that out?" exclaimed Mrs. Coles, turning quickly round on her seat and fixing her eyes on her.

"You forgot the money you paid for it, and which thus lies useless," replied Mrs. Mitchel.

Mrs. Coles lifted up her hands and eyes. "Well, you do cut matters fine," cried she. "I am sure such a thought would not have come into my mind without your putting it there. But, another thing, if I don't want it at present a neighbour may, as I often say to myself when I see a tempting thing, and though I am the last person in the world to wish to turn a penny by any one, I do like to oblige a friend now and then."

"Your first thought and mine, situated as we are," returned Mrs. Mitchel, "the wives of men whose daily bread depends upon their labours, should be for our own and our family's benefit. I quite believe that you never turn a penny by your bargains; but do you not sometimes lose more than a penny by them? Do you not sometimes part with a bargain for less than you gave for it?"

"I don't know that I do," said she, awkwardly. "I don't recollect it."

"Yes, you do," returned Mrs. Mitchel; "and why?"

"Ay, why?" repeated she, colouring, but with vivacity. "Make that out, if you can. I don't know why, if you do."

"Then I will tell you," said Mrs. Mitchel, "that you may boast how cheap you can buy things,—cheaper than any one else."

The heart is sometimes more honest than the lip, and provokingly stamps the seal of its integrity on the unwilling cheek. If Mrs. Coles could not have attributed the sudden flush that overspread her features to a return of that heat which she had before pronounced to indicate an approaching storm, she would have found herself rather in an unpleasant predicament. Without pretending to notice her, Mrs. Mitchel continued :—

"Now, if you had bought yourself new ribands for your bonnet, I should have said you had done right."

Mrs. Coles took off her bonnet hastily. "What's the matter with my ribands?" said she. "They were new a very little while ago. Oh! I see. This comes of that tiresome shower of rain that fell as I was looking for a stall Charles Tomkins's wife told me of, where they were selling off all sorts of articles. I was in hopes it had done no harm, for I got Jane Cotton, who went with me, to wipe my bonnet with her handkerchief. I suppose she was too intent upon her own affairs to care for me. I know she was afraid I should be beforehand with her, and snap up the things she wanted."

"And what did you buy?" asked Mrs. Mitchel; "something, didn't you?"

"Nothing particular," replied she.

"I suppose your purchases are no secret?" said Mrs. Mitchel.

"Oh dear no!" said Mrs. Coles; "of course not. You shall see what I bought, if you like: what objection can I have to show them?" And, so saying, she drew forth two very slight and small black silk handkerchiefs, and a larger one of the same quality.

"And what are these for?" said Mrs. Mitchel, holding them to the light. "I can almost see through them."

"La! neighbour!" cried she; "how can you ask! You know as well as I,—the largest is for my husband, and the other two for the boys."

"And of great use they will be to them!" returned Mrs. Mitchel, contemptuously throwing them aside. "They will not be a month's wear. And what should they do with silk handkerchiefs? A good linen or cotton would have answered their purpose better."

"They are not to wear them always," said Mrs. Coles.

"If they did, they would not last them a week," murmured Mrs. Mitchel.

"I shall let them put them on only on Sundays," continued she, regardless of the interruption: "and I see no reason why they should not have *silk* handkerchief as well as others,—they are paid for."

"It is not the paying for things that makes them proper for those who buy them, or who are to wear them," replied the other. "I say to you as I said to Sally Roberts, when she came to see me the other evening, with flowers under her bonnet, and with strings as wide as her young lady's, and who answered me as you have done. 'Sally,' says I, 'that's a very foolish word of yours. What suits one station is very unbecoming in another, though one may be as able to pay for them as another. They who respect themselves and wish to be respected in return, should bear in mind their situation as well as their means.'"

"Trust you, neighbour Mitchel, for giving persons a good set down when you think they deserve it," said Mrs. Coles. "Sally Roberts is a poor, conceited thing, and I am glad you did say so to her. It may do her good; for I must own, if what you say is sharp, there is always a kind

motive at the bottom of it ; and you are never ill-natured,—I will say that for you.”

“I should be very sorry if any one had cause to say I was,” replied Mrs. Mitchel. “I have had a good deal of trouble to struggle through at one time of my life or other ; and small means and many mouths to feed, and only one pair of hands to depend upon for everything, can hardly fail to teach the most thoughtless prudence ; and what we have been taught ourselves, we are very apt to teach others.”

“Oh ! I always take what you say to me in good part,” said Mrs. Coles ; “if it is not what I like, I try to forget it.” And she might have added, she found no difficulty in so doing. The assurance, however, was unnecessary ; for her conduct gave ample proof that the wise admonition she received was never more completely out of mind than when it was most needed.

“Now, tell me honestly,” said Mrs. Mitchel, “since I am not likely to offend you, do you owe anything to any of our own tradesfolks ?”

Mrs. Coles seemed on a sudden to have found an uneasy seat. Luckily, she discovered that her second cup of tea, which she had neglected to drink, was now cool enough for a draught ; by this means time was afforded her to answer the question to her own satisfaction.

“Not much,” replied she ; “one can’t pay ready money for *every* thing, as you must know by yourself.”

“But you paid ready money for this trumpery, as I cannot but call it,” said Mrs. Mitchel. “Now, don’t be affronted—I mean no offence,—this is not doing as you ought. They who are willing to trust us, and who do trust us when they have only our bare word for payment to rely upon, ought to be the first who should receive our money when we have it to offer them. It is neither an honest nor a grateful principle that tempts us to pay the stranger ready money, when a neighbour and a townsman has given us credit. All have a right to live ; and one kind act ought to beget another, and justice should be done to all.”

“There can be no doubt of that,” said Mrs. Coles, “and if I had a great deal of money to spend, I should be very particular as to whom I dealt with. But I have so little to spend any way ; it’s not worth a thought to any one.”

“Not quite so little as at this moment you fancy,” said Mrs. Mitchel ; “but no matter for that. Many little sums put together make a large sum at last ; and when the tradesman adds up his week’s or his month’s accounts, as may be, or counts the money in his till at night, he can’t tell who gave him this sixpence, or that shilling, or those half-crowns. He is obliged to all, and feels, no doubt, obliged to all ; for all, in their sort, have helped him to pay his own way, and gain him a livelihood. Thus a good feeling is raised in him towards his customers and neighbours, rich and poor, and a link, as one may say, is forged to bind all parties together, without injury to the respect a better may claim, or a lowering of himself to the level of the meanest. Now what does the man care for you who tempts you to lay out your money with him for the sake of his ‘so cheap’ goods ? Nothing ; nothing at all. When he has got your money, you may do what you can, go where you can ; he troubles himself no more about you. But look at any one of our own shopkeepers. If we are in distress, if we are in need of a kind friend to speak for us, or a helping hand to give us a little lift, who is so ready to come forward as they ? If the poor of the parish are well taken care of,—if parish matters in general are well looked after,—

whom have we to thank? The very men we are speaking about; those who, being higher than ourselves, and better off in some respects, (I say *some*, for many of our little shopkeepers suffer a great deal more than we, and know greater hardships than we do,) yet who, in a measure, live by us, and depend upon us, as one member of a family does on the other. I tell you the truth, and I wish you, neighbour Coles, and every young married woman would try to say the same—I should be ashamed to ask credit from one tradesman when I could find ready money for another."

"Then why don't our regular tradespeople sell their goods as cheap as these others do?" demanded Mrs. Coles. "Fair's fair. If they did not ask more than I can get the same goods for at a much less price, I should never think of laying out a sixpence from them."

"There are many reasons why they cannot offer their goods at the price you boast of giving to your favourite dealers," replied Mrs. Mitchel. "Many of the goods of these last are damaged articles, or the remnants of a bankrupt's stock, and some, perhaps, not come by quite so fairly as might be. But why were you so vexed the other day when Mrs. Pemberton set Gipsy Tom, as they call him, to mend her saucepans, instead of sending them as usual to your husband?"

"Why?" retorted Mrs. Coles, reddening; "why, was it not very unkind of her, and very unlike a lady too, to employ that man of whom neither she nor any one else knows anything about, instead of a respectable, regular tradesman like my husband, who has grown up from boy to man under her own eye, or her family's, only to save her a few paltry pence? I *was* angry, and how could I help it? Does not my Richard rent a house, and pay rates and taxes too, and has not he a growing family to maintain decently, as well for the credit of the town, as he says, as for his own? I *was* angry; I know I was, and I spoke out my mind; and I ask you, as I did the cook, who I dare say told you all about it, whether people ought not (I did not name names) to consider their neighbours, and give them a turn before they thought of others who only came now and then in their way, trying with fine speeches to take the bread out of better men's mouths, and who have no claim at all upon them."

"You have hit off my meaning exactly," said Mrs. Mitchel, with a smile; "there's nothing like being in the same case for teaching us the truth. Now put yourself in the place of our tradespeople, and bring to mind the golden rule of 'doing to others as we would be done by,' and I shall have no more to ask, nor you to answer in this matter."

"I am not fond of being trapped to say what I did not intend," said Mrs. Coles. "If I had suspected what you were about, I should have looked at my words before I spoke them."

"Come, come," said Mrs. Mitchel, good-humouredly; "I know you will forgive me. What I say, recollect, is said *to you*, not *against* you, nor behind your back."

"No," replied Mrs. Coles, warmly, the shade which had overspread her countenance giving place quickly to a smile; "I will say that for you, if you don't like a thing you say so to one's face, and there's an end of it. It does not come round to one's ears from a dozen quarters, each harder to bear than the other. But if a good word is to be spoken for a body, there is no one like yourself for giving people their due. What you say, too, you mean; and I will own I am better pleased when you allow I am right, it may be"—(and she looked archly)—"because it is but seldom, than I am with any other person's praises if they be ever so loud."

"Then only let me say a few words more, and I have done," said Mrs. Mitchel. "You have not called me your friend, but you have shown you look upon me as such, and that makes me more willing still that you should profit by me. I have had a good deal more experience than you; take it then as a truth which I have proved, that a low-priced article is very seldom the cheapest in the end. It is better, rely upon it, to give a little more to a respectable tradesman, whose own credit is at stake for what he offers for sale, and to trust to his recommendation, than to trust to your own judgment, or the assurances of one whose only view is to get rid of as much as he can. Good at first is good at last; that which wears the longest is the best and the cheapest. The flimsy articles you buy are dear in the end, are often unbecoming your station (you see I take you in your own spirit, and at your own word), and give both you and your children a look of 'shabby fine.'"

"Thank you kindly, Mrs. Mitchel!" exclaimed a voice that startled both females; "that's word for word what I have often said to my wife. Isn't it, Sussey?"

"You need not have frightened one so," said she, working his hand from her shoulder; "what has brought you here?"

"The thought that it was getting very late before you came home," replied he. "I set off to meet you: but hearing that you were here, I resolved Mrs. Mitchel should be troubled with us both."

"And you have been listening to my lecture, I suppose," said she: "it must have given you pleasure."

"No," answered he, "not pleasure in the way you seem to mean. Pleased I am, but it is because you have such a true friend as I know you have; and I am very much obliged to you, Mrs. Mitchel, for your kindness to my wife, and the good advice you give her." He turned to the latter. "Ah, Sussey!" continued he; "there's no contradicting a word she has said; and I tell you now, as I have told you before many times, a man feels an honest pride when he knows his wife can go into a respectable shop on the credit of her husband's industry and of her own good management, and be met and served with a welcome look and a civil word. The thought gives a spur to his efforts, and a feeling of respect for himself, which never wakens at sight of the most *wonderful bargains* she can lay before him. But there is one thing, Mrs. Mitchel, I can say for my wife, and a good thing it is, as you will allow,—buy what she may, she never hides it from me, nor uses any deceit towards me. Do you, Sussey?"

Why, then, was that cheek on a sudden of a crimson hue, and why was that face turned instantly a contrary way?

"Mrs. Mitchel," said Mrs. Coles, the next time she saw her, "if anything cures me of loving a cheap bargain, it will be that speech of my husband's the other evening. I *have* deceived him over and over again. If he wished to be revenged on me, or to punish me almost beyond bearing, he has had his will without knowing it. I never felt in such a way! Yes, he has fancied that I bought articles at the regular shops which I did not, and I did not dare to tell him the truth. You are right, Mrs. Mitchel; quite right. Evil can never spring out of that which is really good, nor can that be worth boasting of which runs a risk of bringing shame to our face and reproach to our heart."

CEREMONY is the invention of wise men to keep fools at a distance. Good breeding is an expedient to make fools and wise men equals.—STEELE

THE

HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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ANCIENT LONDON—ILLUSTRATED BY ITS EXISTING MONUMENTS
AND ARCHITECTURAL REMAINS.



THE LONDON STONE.

THE origin of London, the identity of its founders, even the source and signification of the names by which it has been distinguished during nearly the space of the Christian era, are points which, after frequent discussion and much ingenious speculation, still remain without any satisfactory degree of solution.

Walter Mapes, archdeacon of Oxford in the middle of the twelfth century, is said to have met with a history of Britain, written in the British
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tongue, while journeying in Armorica, probably in search of archives, of which he has the reputation of having been a diligent investigator. The translation of this chronicle he committed to the charge of Geoffrey Ap David, called Geoffrey of Monmouth; and in the hands of this monk it was increased with Merlin's prophecies and other garbled matter, which, with the probable interpolations of his successors, have had the effect of bringing the entire document into contempt, as wholly fabulous. Indeed its Armorican source appears but doubtful, and the compilation has been considered by the Welsh critics to be no more than a vitiated translation of the 'History of the British Kings,' by Tyssilio or Talian, bishop of St. Asaph in the seventh century.

Respecting the origin of London, the version of Geoffrey informs us that Brutus, a Trojan by descent, being the son of Sylvius and great-grandchild of Æneas, having consulted the oracle of Diana, proceeded to Britain, which he took possession of, and, "considering the state of the kingdom, formed a design of building a city, and in order thereunto, carefully surveyed the country, to discover a place proper for its situation. At last, pitching upon a spot of ground on the bank of the river Thames, very fit for his purpose, he erected a city thereon, and dignified the same with the appellation of New Troy, by which name it was known for many ages, but the same being at length corrupted, it was called Troynovant; and in process of time, when Lud, the brother of Cassibellaum, obtained the government, he encircled the same with a strong and stately wall, adorned with an infinite number of towers of curious workmanship, and changed the name thereof to *Caer Lud*, or *Lud's Town*; and commanding the citizens to build houses and public structures of all sorts, it soon equalled, if not excelled, all cities at home and abroad to a great degree. But some time after, the new appellation being corrupted, it was changed into *Caer London*; and when the kingdom was afterwards conquered and brought into subjection by foreigners, they changed the name thereof to *Londres*."

This piece of history appears to have been held in full credence by the citizens of London in the reign of Henry VI., according to a Latin document or plea of that time, addressed to the king, in proof of the antiquity and dignity of that city, still in existence, which sets forth as follows:—"Among the noble cities of the universe, extolled by fame, none can be compared to the City of London, the metropolis of your realm, which is esteemed the wonder of the world, both for the wholesomeness of its air, the true faith and practice of the Christian religion amongst its inhabitants, its most worthy liberty, and most ancient foundation. For, according to the credit of chronicles, it is considerably older than Rome, having been founded by Brute, after the form of Great Troy, before Rome was built by Romulus and Remus. Whence to this day it enjoys the liberties, rights, and customs of that ancient city of Troy; for it retains the senatorial dignity and lesser magistrates (*i. e.* Mayor and Aldermen), and its annual sheriffs supply the place of consuls. And whoever repair thither, of whatsoever condition they be, free or servants, they are protected, and obtain their freedom. And almost all the bishops, abbots, and nobles of England have their noble palaces here, and are, as it were, citizens and freemen of this city."* It may be remarked of the above, as well as with respect to the chronicle it is derived from, that they betray a striking misappropriation of events, which in reality took place subsequent to the Roman conquest of Britain; but as regards the line of British kings

* Maitland.

recorded by the early monkish chroniclers, there appears no especial reason why the belief in such a succession should be altogether repudiated. Indeed, that part of British history has been admitted by Leland and some of our best antiquaries and scholars; and Milton, who wrote a history of England down to the Norman conquest, dwells at some length upon the state of Britain previous to the Roman invasion, which he judiciously prefaces as follows:—"Seeing that oft-times relations, heretofore accounted fabulous, have been after found to contain in them many footsteps and relics of something true" "I have, therefore," he continues with a reservation, "determined to bestow the telling over even of these reputed tales, be it for nothing else but in favour of our English poets and rhetoricians, who, by their art, will know how to use them judiciously."

After dismissing the tale of the elder Ninnius, relating to the colonization of Britain by the offspring of the fifty daughters of Danaus, king of Argos, and the giants descended from Albion, with other fabulous accounts of the early writers, he further says: "But now of Brutus and his line, with the whole progeny of kings to the entrance of Julius Cæsar, we cannot so easily be discharged. Descents of ancestry, long-continued laws and exploits, not plainly seeming to be borrowed or devised, which, on the common belief, have wrought no small impression, defended by many, denied utterly by few." Four of those kings are said to have been buried in London, and the names of two of them are still locally associated with Billingsgate, as Belin's gate, and Ludgate, and have a certain interest, together with the name of Dowgate or Dwr gate, as the only three names of British origin surviving in this city. Of those localities, and of those descendants of the British kings immediately connected with the period when London became annexed to the Roman empire, there will be occasion for further notice.

It has already been said that the etymology of the word London has been variously construed without any very satisfactory result. The following are the different forms under which it appears in the early writers, together with the constructions which have been put upon them by scholars and archaeologists:—*Civitas Trinobantes* is an expression of Cæsar, presumed with no great certainty to apply to the capital of the Trinobantine kingdom, which extended over the present county of Essex. Tacitus, Ptolemy, and Antoninus agree in the word *Londinium*; Ammianus Marcellinus speaks of London as an ancient place, formerly called *Lundinium*, but at the time of his writing, *Augusta*; in another place he styles it *Augusta Trinobantium*. The Welsh writers, and others considered fabulous, have added the names *Caer Ludd*, or city of Lud, and *Dian Belin*, or city of Diana. *Lundenbyrig*, *Lundenberig*, *Lundenburg*, *Lundenweye*, *Lundenceastre*, are Saxon denominations of London, the latter as written by Alfred the Great. The original name of London has been generally determined to have sprung from a Celtic word, and this has been variously construed, the signification of the second syllable *dun* or *thun* being accepted as representative of a place of strength or enclosure, corresponding with the word *town* in the Saxon, and *din* in the Welsh. The first syllable *Lon* is convertible into *Llawn*, full or populous; *don*, a plain; *Llong* signifying ships, &c., which latter derivation is corroborated by the statement of Camden, that London is called by one of the ancient British or Welsh bards, *Lhong-porth*, a harbour of ships. The termination in the *Lundenceastre* of the illustrious Alfred, is derived by Maitland from a Phœnician word, *Caer*, respecting which he says: "First be it remembered

that the Phœnicians traded with Britain, after whose arrival, almost all the cities, towns, and villages of Britain were called *Caer* or *Cayer*, a general name prefixed to it, either from the founder thereof, or from a river near which it was built, or from the nature of the soil or climate, or from the commodiousness and condition of the place. Thus *Caer Lud* was given to the *Londinium Trinobantium*, *Caer Iske* to *Exeter*, from its situation on the river *Exor Iske*, &c.; a word not of a Latin origin, but a pure Oriental word, introduced by the Phœnicians amongst the ancient Britains, and signifying the same as the Saxon words *cester*, or *Chester*, and the Latin word *castrea*."

London, or *Londinium*, is described by Tacitus, nearly eighteen centuries ago, as a place most renowned for an abundance of merchants and of provisions, although not distinguished by the title of a colony. This was written little more than a century subsequent to the first invasion of Julius Cæsar, and only nineteen years after the expedition under Aulus Plautius, in the reign of Claudius (A.D. 43), when Britain became subject to Roman power. It can hardly be supposed, therefore, that in so short an interval, London could have risen to the condition of wealth and commerce ascribed to it, and it may be concluded that it had become so established upon its own independent resources, previous to any connection with the imperial invaders. The above brief notice of Tacitus is the first ascertained reference to this Trinobantine community, and it suffices to place London among the earliest cities whose existence has continued to the present time, and to place it second only to Rome and Constantinople in point of antiquity; while, as regards its population, and the extension of that commercial status, the renown whereof originates with our knowledge of its existence, it is admitted to stand unrivalled among cities of the modern world. *Camaldunum* (Maldon), *Verulamium*, a seat of British royalty, now *St. Albans*, and *Londinium*, appear to have been established by the Romans at about the same time, the first as a *colonia*, whereby it is concluded to have been entirely of Roman origin;* the second probably from its early submission to Roman sway, as a *municipium*, under which the native inhabitants retained their own laws, together with the privileges of Roman citizens; while *Londinium* was made only an *emporium* under the control of a *præfect*, who was appointed annually. The imposition of this more rigid form of government is supposed to have been determined on account of the mixed character of the numerous inhabitants, perhaps as a means of commanding a more strict control over the resources of the place; and it may have likewise risen out of the determined character of the recent opposition on the part of the Trinobantines, to the forces of the Emperor Claudius.

The grounds for raising any conception of the extent and aspect of British London are few and slight indeed; but from contemporary reference to other British towns,† the dwellings are presumed to have been constructed of timber from the adjoining forest, and the less substantial material of stake and wattle;‡ the walls so contrived being plastered with

* A coin of Augustus, engraved in Camden, bears on the reverse a man guiding a plough, in which are yoked a bull and a heifer, representing the Roman mode of laying out a city. It is inscribed, COL. CAMALODON AUG.

† Cæsar, and afterwards, Strabo, described the British towns as a collection of huts, erected on a dry spot amid the marshes, or in a clear space of the forest, fenced about with an earthen mound, or a stockade of timber and a ditch, for the protection of the place.

‡ Strabo.

clay for the exclusion of weather, as may be seen in Gloucestershire and other parts of the country at the present time. The magnitude of dwellings belonging to persons of rank or wealth, rather than any superior manifestation of taste, was probably the only feature to distinguish them from other edifices of more humble pretension.

British London is supposed to have been situated on the slope stretching from the site of St. Paul's to Dowgate, a place considered by Pennant to have been the *dwr*, or water gate of the Britons; granting which, the line of Watling-street may be supposed to represent the main thoroughfare of the British town, as it does the subsequent prætorian way of the Romans. Cæsar obtained his information, preparatory to the invasion of Britain, from the Gaulish merchants; he likewise justifies the invasion itself on the plea that his enemies in Gaul were strengthened by the supplies furnished by the British. London, it may be believed, was one of the sources of those supplies; and the present Dowgate would appear to have been the port of British London, and the mart of the traders from the opposite shores of the Channel. That it became an important feature in Roman London will be described in another place.

The position of London must originally have been one of considerable natural strength, being fronted on the south by the expansive estuary of the Thames, and which Wren presumed to have spread itself as far as the opposite hill of Camberwell, the embankments whereby it was subsequently oured being still traceable, and which were considered by the same authority to have been of Roman construction. It must be noted, with reference to the situation of the British town, in contiguity to such a flood, that it had the disadvantage of lying considerably lower than the present site, the level of the soil having since undergone a considerable artificial increase, and hence it is to be supposed, that the British town must of necessity have been provided with some defence against the encroachments of the tide; and the discovery, in the course of some excavations on the Thames bank, of the trunks of trees closely rammed, and interlaced with branches, furnished evidence of such a work most probably of the British period. Notwithstanding, however, the fact of extensive Roman foundations, laid on piles, having been discovered in the heart of Roman, and probably likewise, British London, would indicate that the original footing had been of no very stable kind. The stream called the Langbourne, which sprung from the marshy ground now called Fenchurch-street, and which gave its name to the ward so entitled, together with the marshes of Finsbury on the north, the Wall Brook,* which had its rise in the above marshes, and ran into the Thames at the east, and the river Fleet, at the opposite extremity of the British town, rendered its position nearly insular, and capable of repelling any extensive assault from without, on the part of

* The Wall Brook, mentioned in a charter of the Conqueror, as the running water which entered the City, or which ran through the City wall near Moor-gate, and across the City from north to south, having several bridges over its course, had in Stow's time, as he states, been built over, so that its course had become "hid underground, and thereby hardly known." With regard to this brook, Mr. Roach Smith, in a communication to the Society of Antiquaries, (*Archæologia*, vol. xxvii.) says that in the course of excavations on the line of King William-street, there appeared throughout the line vast numbers of wooden piles, which he conceived to have belonged to a channel in the Roman time, intended to drain off the waters from the adjoining marshes, and which, in point of situation, corresponded with the course of the Wall Brook described by Stow.

native or undisciplined foes. In addition to those defences, the land side was closely hemmed in by the primeval forest, which continued undiminished until the reign of Henry II., and is included among the notable features of London enumerated by Fitz-Stephen, a monk of Canterbury, who flourished at that time. This wood, then distinguished as the great forest of Middlesex, abounded in beasts of the chase, among which Fitz-Stephen mentions "the stag, the bucke, the wilde bore, and the bull," *Bos sylvestris*, the skulls of which, frequently dug up, display a vast breadth of frontal, and are one-third longer than those of the common tribe, *Bos taurus*. In the open spaces of those deep groves, the mystic and hideous rites of Druidic paganism, of which Britain is said to have been the chief stronghold, might find an appropriate sphere; and the altar smeared with the blood of human captives, the fiery holocaust, and the obscene vigils and phrenzied clamour in honour of the new moon—enough to outhowl and scare the wild beasts whose lairs they invaded—may have desecrated many a spot where now the hubbub of the market, and the cries of clamorous huxters, agonize, in their turn, the unquiet ear of far-spreading London. A degree of antiquity equal to the dark period of Druidism has been, by some, assigned to a relic otherwise not a little honoured by time and association. This is the well-known fragment especially distinguished as London Stone. In reference to this noted vestige, Stow informs us that "In the end of a faire written Gospell booke, given to Christ's Church in Canterbury, by Ethelstane, king of the West Saxons, I finde noted of lands or rents in London, belonging to the said church, whereof one parcell is described to lye neere unto London Stone;" so that, speculation apart, we find it a boundary of some standing; and it may be remarked, that so far as its present position, encased as it is in a shell of freestone, will admit of examination, it appears to be an unhewn stone, similar to those Druid monuments to which the tool of the mason was not permitted to be applied,* and which we still find in different parts of the country under the name of hoar or hare stone, a name signifying a boundary. A monument of this description exists in the parish of Sancred, in Cornwall, surrounded by a heap of stones. This has been likened to the pillar and heap set up in the covenant between Jacob and Laban:—

"And Jacob took a stone, and set it up for a pillar.

"And Jacob said unto his brethren, Gather stones; and they took stones and made an heap; and they did eat there upon the heap.

"And Laban called it Jegar-sahadutha: but Jacob called it Galeed;

"And Mizpah; for he said, The Lord watch between me and thee, when we are absent one from another.

"And Laban said to Jacob, Behold this heap, and behold this pillar, which I have cast betwixt me and thee;

"This heap be witness, and this pillar be witness, that I will not pass over this heap to thee, and that thou shalt not pass over this heap and this pillar unto me, for harm." †

* Exodus, chapter 20.—"And if thou wilt make me an altar of stone, thou shalt not build it of hewn stone, for if thou lift up thy tool upon it, thou hast polluted it."

† See likewise the stones of memorial set up by command of Joshua, to commemorate the passage of the Ark over Jordan. (Joshua iv. 7.) The piles of stones called cairns, in the northern parts of this country, appear to have been made not only as memorials, but to prevent the passenger from treading on unhallowed ground. The author witnessed, about forty years ago, in

After the great fire of 1666, some excavations were carried on under the direction of Wren, in the neighbourhood of London Stone, which then stood in its original situation on the side of the way opposite to St. Swithin's Church; extensive remains of Roman masonry were discovered, likewise some tessellated pavements; and London Stone itself was found to stand upon foundations of such magnitude, that Wren concluded they must have supported some considerable monument, whereof the stone or central milliarium, which he took it to have been, was only a part, and which he supposed somewhat resembled the *Milliarium Aureum* at Constantinople, which was not in the form of a pillar as at Rome, but an eminent building; for under its roof, according to Cedrenus and Suidas, stood the statues of Constantine and Helena, Trajan, an equestrian statue of Adrian, a statue of Fortune, and many other figures and decorations. Supposing, with Wren, this to have been some considerable edifice in the forum, marking the centre of the Londinium of the Roman empire in the early period of its dominion, and ere the city had extended in a northern and eastern direction, this supposition is corroborated by the coincidence which has been found to exist in point of distance, with the neighbouring stations as laid down in the Itinerary of Antoninus, by which compilation we are likewise informed that out of the fifteen British roads there mentioned, four originated in London, and three others had their termination there. Notwithstanding, however, the reasons by which we are led to believe London Stone to have been a Roman milliarium, we are not absolutely called upon to discredit the presumed British origin of this venerable relic; for it may be justifiable to go further, and to presume the probability of its adoption by the Romans, either as a trophy of conquest, or a monument spared in respect for the conquered, in which case we may behold it with twofold veneration. First, as a solitary remnant of British London—for speculation, once set free, will take a wide flight—the “llwn-thun,” or unhewn stone of the Druids, from which the place may have even derived its name. Secondly, as one of the early tokens of Roman influence, and the progress of civilization indicated by the due measurement of roads and setting up milestones to mark the distance from one place to another. But whatever may have been its origin, London Stone appears to have been held as an object of peculiar veneration, as a kind of palladium to the City, and among other instances, it is curiously associated with the font of St. Paul's Cathedral; for long ere London enjoyed a Bourse for the transaction of business, a bargain ratified at either of those places was held to be especially obligatory; and no doubt it was in appeal to this superstition, that the arch-rebel Jack Cade, when he entered London at the head of the Kentish insurgents, marched straight to London Stone, and striking upon it with his staff, announced, “Now is Mortimer lord of this city.”

It has been said that London Stone has been transplanted from the opposite side of the way. It is described by Stow as it appeared in his time, in its original situation. “On the south side of this high street” (Cannon-street, in continuation of Watling-street), he says, “near unto the channell is pitched upright a great stone, called London Stone, fixed in

Northumberland, the interment of a suicide, according to the then barbarous custom, in a cross road, when stones were thrown upon the grave by the spectators, and afterwards by persons passing by, so that a considerable heap, or cairn, was raised. Cross-roads were anciently dedicated to Diana Trivia; and persons buried in such places may have been thus assigned to her in her character of bride of Pluto and goddess of the infernal regions.

the ground very deepe, fastned with barres of iron, and otherwise so strongly set, that if cartes doe runne against it through negligence, the wheels be broken, and the stone itselfe unshaken." Perhaps the advantage maintained by the stone over the cart-wheels may have brought it under the displeasure of the authorities, for about the end of the eighteenth century, London Stone was condemned as a nuisance, and would have been dealt with accordingly, but for the interposition of Mr. Thomas Maiden, of Sherbourne Lane, printer. St. Swithin's Church being at that time (1798) under repair, this worthy printer prevailed upon the churchwardens to take the doomed monument into their tutelage, and this, or a fragment thereof, was built into the church wall, and encased as it now appears; dwindled indeed, and not unlike a Dutch timepiece, in appearance, but great in association—the nucleus of Titanic London, the dethroned Saturn of its remote and misty dawn.

A VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—No. XI.

ITS GEOGRAPHY, ITS MOUNTAINS AND RIVERS, AND BOTANY.

THE data in our possession for forming an accurate estimate of the general features of the continent itself are extremely meagre. The surface is too extended, and the explored portion too small to allow us with safety to hazard any general conclusions. The prevailing features, so far as they have yet been observed, have been barren and wooded plains, traversed by long ridges of precipitous but not very lofty mountains, and rivers which often spread into marshes, and do not preserve any course which may be called long, when compared with the size of the continent. There are few deep bays, nor does the sea receive any river, so far as yet discovered, whose magnitude corresponds with that of the land. Notwithstanding the spirited efforts lately made, it is still only a corner of the interior of this huge mass of land that is at all known. A great part of this, through the mixture of broad mountain masses and heavy inundated plains, is rendered unfit for cultivation, and even for travelling; but these obstructions, however, do not prevent the occurrence on a large scale of fine tracts of pasturage, where the richest herbage grows spontaneously, and of fertile soil from which industry may raise the most plentiful crops of every kind of cereal produce.

The Australian continent lies wholly within the southern hemisphere. Its most northern point is Cape York, which is $10^{\circ} 42'$ south of the equator, and Cape Wilson is its most southerly one, which is $39^{\circ} 9'$ south latitude; the breadth of the continent between these points is upwards of two thousand miles, but the average breadth is not more than about twelve hundred. The most westerly point of the Australian mainland is 113° , and the most eastern $153^{\circ} 47'$ east longitude, and its greatest dimensions in this direction are equal to two thousand four hundred miles. The superficial extent of Australia is about three millions of square miles, an area of more than four-fifths as great as that of Europe.

The hilly portions of Australia, so far as at present known, appear to be confined to the neighbourhood of the coasts, or to extend a short distance inland, while the interior spreads out into low and flat plains. The highest mountains yet explored are in the south-east, and are called the Australian Alps, which form a continuous chain, lying at a distance of

from sixty to seventy miles from the coast. The highest measured peak of the Australian Alps is Mount Koskinsko, and is six thousand five hundred feet above the level of the sea. Its summit, even at this moderate elevation, is much above the snow line, and all the higher portions of the chain are covered with perpetual snow. To the northward of the Australian Alps, chains of mountains extend along the whole of the eastern coast, but the only portions which have been explored are the Blue Mountains and the Liverpool range.

The Blue Mountains present on the eastern side a precipitous and inaccessible character. They tower up almost like a wall, their cliffs being so steep and separated by such dreadful abysses as to have been long considered as presenting a barrier absolutely impassable. It was not till 1813 that a route was discovered through them; but at that time the absolute necessity of finding pasturage for the immensely-increased stock of sheep and cattle, roused the active energy of the colonists to endeavour to penetrate the barrier which stood between them and the interior. They found on the western side a series of well-watered downs, affording pasturage for millions of sheep; the lands were speedily occupied, and towns and villages sprang into existence there. And it is in the basin on the western side thus discovered, bounded on the east and south by the Blue Mountains and the Australian Alps, and by the unknown interior to the north-west, that that unexampled supply of gold, the ultimate effect of the discovery of which is affording a new problem to the world, has been so recently found.

The Liverpool range stretches to the northward of the Blue Mountains, and is in many places equally rugged. Its summits are from two thousand to four thousand feet in elevation. Mount Lindesay, situated further to the north, is five thousand seven hundred feet in altitude, and there are many other points in the neighbourhood of the east coast, which are probably of equal elevation.

There is a large number of rivers on the coast-line of Australia, but, as has been already mentioned, few have yet been discovered which bear anything like a proportion to the extent of continent. The most extensive system of rivers at present discovered in the continent belongs to the basin of the Murray, which drains a large tract of the south-eastern portion of the interior. The river Murray rises on the western slope of the Australian Alps, and after flowing for the greater part of its course in a westerly direction, turns to the south, and enters the sea at Encounter Bay, passing through a shallow marsh, called Lake Alexandrina. This lake or marsh presents to the eye a fine sheet of water, twenty-seven miles long by twenty-three broad, but unfortunately its depth is only from six to nine feet, and the channel by which its waters communicate with the sea is exceedingly narrow and dangerous; in fact, the lake appears to be in gradual process of filling up. During the western part of the course of the river it receives the waters of the Murrumbidgee (with its affluent the Lachlan) and the Darling, the latter of which in its upper portion collects the waters of numerous tributary streams. All of these rivers flow from the western side of the Blue Mountains or other ranges of the east coast, and have their upper courses directed towards the interior of the continent. The length of the Murray exceeds twelve hundred miles, and it is navigable for upwards of seven hundred. A premium of two thousand pounds was offered by the Government of South Australia for the first steam-vessel placed, under certain conditions,

upon its waters ; but up to the date of the publication of this work no information had been received in this country that the reward had been claimed. There can be but little doubt, however, that the waters of the Murray will ere long re-echo the sound of the paddles of many steamers.

The Australian continent has been described as the land of anomalies. It is summer there when it is winter in Europe, and day with them when it is night with us ; the barometer rises before bad weather, and falls before good ; the north is the hot wind, and the south the cold ; the humblest house is fitted up with cedar, and the fields are fenced with mahogany, and myrtle-trees are burnt for fuel ; the swans are black, and the eagles white ; the kangaroo, an animal between the squirrel and the deer, has five claws on its fore paws, and three talons like those of a bird, on its hind legs, and yet hops on its tail ; the mole (*Ornithorhynchus paradoxus*) lays eggs, and has a duck's bill ; the crabs are of an ultramarine colour ; there is a bird with a broom in its mouth, instead of a tongue ; there are insects which are called, from their appearance and habits, "the walking leaves," and there are fish which are amphibious, leaping over the ground by the aid of their strong spiny fins. The coal district is the most fertile ; the bees are stingless ; the beautiful flowers for the most part scentless ; and the rich plumaged birds are songless—the one which makes the nearest approach to melody being called "the laughing jackass." Weeds in this



TROPICAL VEGETATION.

country become gigantic trees there ; the trees are, with one exception, evergreens—the leaves of most of them are set edgewise, instead of horizontally, and some of them shed their bark instead of their leaves ; and, while there is, naturally, a total absence of any vegetable production fit for the ordinary food of man, the soil is capable of producing every variety of corn, fruit, or vegetable, whether European or Tropical, which can be planted upon it.

Upwards of 5,700 different plants are known to exist in Australia, and of these only 270 are common to other countries, so that upwards of 5,400 are altogether peculiar to its extraordinary soil. Ferns, nettles, flowers and grasses, having the form, bulk, and habits of trees, are abundant; hard timber, with rosewood, sandalwood, and cedar is plentiful. Some trees yield the purest gums, while the leaves of others are used as tea. The sassafras and castor-oil plant have been discovered. On the northern coasts palms flourish abundantly, and the tropical mangrove exists in those parts nearest the Indian Islands.

With one exception all the trees of Australia are evergreen. No dense woods have been found, and the groves, from a peculiar arrangement of their foliage, present a strange appearance—many of the trees having their leaves hanging with the edge downward. Flowering plants of excessive beauty are found; and the lily, tulip, and honeysuckle grow to the size of large standard trees. There are many odoriferous shrubs, which scent the air to a considerable distance. In the interior, immense numbers of prickly plants cover the ground, binding down the loose soil, and preventing that drift which distinguishes the deserts of Arabia and Africa from the Australian wastes. Although large and excellent pastures form a prominent feature in the aspect of the country, yet a heavy English sward is seldom found. Flax, tobacco, a species of cotton, tares, indigo, chicory, trefoil, and harnet (an excellent substitute for tea), are natural productions. No native trees bearing edible fruit have been found. The peppermint-tree affords an oil efficacious in cholera; the leaves of the tea-plant are not much inferior to those of China; and the bark of the wattle is useful in tanning. European fruits, however, supply the absence of indigenous specimens: the grape, the apple, the peach, the cherry, the apricot, the nectarine, the greengage, the pear, the mulberry, the raspberry, the gooseberry, the currant, the strawberry, the quince, the walnut, the chestnut, all thrive remarkably well—some of them requiring no care whatever in their cultivation. The larger number of European vegetables thrive in the Australian colonies, equally as well as the fruits. Most of the Australian trees are of hard wood, but a very large number are of great utility for ship-building, and also for ordinary and ornamental purposes. Many of the trees are remarkable for their vast height, or enormous dimensions. The *Eucalyptus globulus* of La Billardiére (principally found in Van Diemen's Land) has been observed to attain a height of one hundred and fifty feet, with a girth near the base of from twenty-five to forty feet. Lieutenant Breton mentions one which he saw of a triangular form, one face of which was eighteen feet in width, another nineteen and a half, and the third twenty-two and a half, giving a total girth of sixty feet; and at Illawarra there is a resting-place for travellers, half-way up the mountain, called the Big-tree, which, although the greater part has been consumed by fire, is still one hundred feet high, and three men on horseback may ride into the hollow of the tree without diamounting, and there take shelter. The New Holland lily grows to the height of twenty to twenty-five feet, bearing on its crown blossoms of the richest crimson, each six inches in diameter, from which beautiful birds sip a delicious honey; the leaves are very numerous, sword-shaped, and sometimes six feet long. Several specimens of the extraordinary nettle-tree are twenty feet in height, of proportionately robust habit, and its leaves so highly stimulating as to blister severely on the slightest touch. The fern-trees are also remarkable, and extremely beautiful; their rough stems

rising to the height of from fifteen to twenty feet, and then throwing out a number of leaves in every direction, each five or six feet, or more, in length, and exactly similar in appearance to those of the common fern.



FERN TREES,

HISTORY OF CAOUTCHOUC.

THE vegetable world supplies us with a few instances of products so important to mankind, whether in a state of civilization or otherwise, as to impress the strongest conviction that they were expressly created for his use. We find their applicability to man's purposes so complete, their utility so direct and evident, that the mind is carried irresistibly to the conclusion, that He who formed all created things for his own pleasure, and to beautify the world we inhabit, formed some which He intended to constitute his special gifts to the human family. If we look at the natural family of the cereals, among which are included wheat, barley, oats, &c., we find a class of plants whose connexion with man, in temperate latitudes, and as high as from 55° to 60° N. lat., is so direct, apparent, and intimate, that it is plain they were formed for his special use, and for that of his brute dependents. The single article, rice, has been said to support by far the greatest number of the human race. What the cereals are to man in a state of civilization—and indeed more—the palms are to the savage inhabitants of the palm-zone of the world. Wine, oil, wax, flour, sugar, salt, says Humboldt, are the produce of this single tribe; to which Von Martius quaintly adds, thread, utensils, weapons, food, and habitations. To the indolent Polynesian the cocoa-palm is the all-in-all. The islander reposes beneath its shade; its fruit supplies him with food and drink; his dwelling is thatched with its ample fronds; its leaves form his basket, its leaflets his fans and bonnets. Out of the fibrous material which

envelops the base of the stalks, he prepares a coarse sort of cloth; the nuts furnish him with drinking vessels, the fibres with material for his cordage, the oil a balm for the living and for the dead. "The noble trunk itself," says Mr. Herman Melville, "is far from being valueless. Sawn into posts, it upholds the islander's dwelling; converted into charcoal, it cooks his food; and supported on blocks of stone, rails in his lands. He impels his canoe through the water with a paddle of the wood, and goes to battle with clubs and spears of the same hard material." Well might Linnæus call this family the vegetable princes, and justly might the cocoa-palm wear the regal crown. These two families—the grasses and the palms—have, however, their chief relation with the direct necessities of human life. As man advances in civilization, his wants increase, and the supply of these wants is scarcely less a necessity, if his progress is to be maintained, than that of his daily food. To supply some of these wants, our age has witnessed the introduction of the remarkable substance at the head of this article. Applicable to a multitude of purposes directly concerned in carrying forward the business of civilized life; yielding readily to manipulation; combining qualities possessed by no other material, and capable of being obtained in sufficient abundance, caoutchouc forms an excellent illustration of the proposition with which we commenced this paper.

If we are to credit M. Duchesne, and most authors who have had to speak of caoutchouc, we must attribute to the French nation the sole merit of its discovery, and of its introduction to the notice of the European world. Four Frenchman, observes M. Duchesne, have united in the course of half a century in giving descriptions of the tree which furnishes this substance, and the concrete juice which exudes from it, so as to render our knowledge of this subject now complete. The first of these was M. De la Condamine. This gentleman, who was a French academician, having been despatched in company with M. Bouguer on a scientific mission to the interior of South America, became acquainted with the tree yielding it, and also with the method of its collection, and forwarded a short note of the fact to the Academy of Sciences in 1736. Subsequently, he furnished a longer statement, which gave a greater detail upon the processes, and the cultivation of the tree: and this has generally been considered to have been the first introduction of any accurate information upon this important substance into Europe. It is, however, deserving of notice, that the knowledge of this substance, and of some of its properties, reached Europe long before the visit of these academicians, for caoutchouc was known in the early part of the last century. And if there be any merit in having been the first to give an account of the substance, it must be taken from the ingenious Frenchman, M. De la Condamine, and given to a Spaniard, Torquedama, whose work was published in the latter part of the sixteenth century. This account is so concise and interesting, that no apology need be made for its introduction into our pages. "There is a tree," he writes, "which the Indians call *Usquahuil*; it is held in great estimation, and grows in the hot country. It is not a very high tree; the leaves are round and of an ashy colour. This tree yields a white milky substance, thick and gummy, and in great abundance. To obtain it, they wound the tree with an axe or a cutlass, and from these wounds the liquor drops. The natives collect it in round vessels of different sizes, called in their language, *Xicalli*, but by us calabashes. In these they allow it to settle in round balls of the size most convenient for the purposes to which they are about to apply them. When quite set, they boil them in water, in which state

the gum is called Ulli. The Indians who have got no calabashes, smear their bodies over with it (for nature is never without a resource), and when it becomes dry, they remove the whole incrustation, which comes off in the form of a very smooth membrane, its thickness depending upon the will of the party collecting. They then make it into balls, and boil them as before. Anciently they used to play with these balls, striking them against the ground, and making them rise to a great height. But in the game of the Pelota, it was not struck against the ground, but caught upon the hip or shoulder. From the ulli an oil is extracted of great value in various applications. It was formerly much used by the natives, nor have they forgotten its properties now; for it is soft and lubricous, and of especial effect in removing any tightness of the chest. The oil is extracted from the ulli by heat; it starts out in a manner to excite admiration, leaving me nought to compare it unto. The oil is drunk mixed with cocoa, and indeed it softens any other medicine, however hard its quality. It is also found of great service in stopping hæmorrhage, for which it is taken internally. The coagulated ulli is so strong in itself, that a breastplate made of it no arrow will pass through; for being of a nature leathery and membranous, it ejects the point. The kings and the nobles were accustomed anciently to make shoes of the ulli, and to order their fools and jesters, the hump-backed and dwarfs of the palace, to be shod therewith, in order to make them sport, for the wearers could not step without falling, which, with their awkward actions, gave rise to much jesting and merriment." What, we may ask, would be the surprise of this learned Spaniard, were he to behold our modern over-shoes made of the same substance?—the wearers of many of which find, particularly on the greasy pavements of our streets, that the ancient cause of merriment still survives, in the slipperiness of their gait. "Our people," continues our author, i.e. the Spaniards, "used it in waxing their cloaks, which were made of coarse canvas, so as to make them resist water; and in truth it is of great effect in resisting the water, but not so the sun, for the rays thereof melt it." From this paragraph we learn that India-rubber water-proof cloaks were in use nearly two centuries before the mackintosh, and that their first inventors were the Spaniards. The whole of this account is highly interesting, as it proves that from time immemorial the savage people inhabiting the luxuriant virgin forests of South America, have perceived the value and applicability of this substance to the purposes of life. The account leaves no doubt in the mind, that to the Spanish nation, rather than to the French, the honour of the first published and complete account of caoutchouc is to be awarded.

The following is De la Condamine's own account of this substance. "The resin named, Cahout-chou, in those countries of the province of Quito adjacent to the sea, is very common also on banks of the Marañon, and serves for the same uses. When it is fresh they work it with moulds into what shape they please, and it is impenetrable by the rain. But what renders it the most remarkable, is its great elasticity. They make bottles thereof, which it is not easy to break; boots and hollow bowls, which may be squeezed flat, and, when no longer under restraint, resume their first form. The Portuguese of Para have learnt of the Omaquas to make squirts or syringes thereof, that have no need of piston or sucker; they are made hollow in the form of a pear when scooped, having a little hole at the small end, to which a pipe of the same size is fitted; they are then filled with water, and by squeezing them they have the same effect as a common

squirt! This machine is mightily in vogue amongst the Omapas; when they meet together by themselves for any merry-making, the master of the house never fails to present one to each of his guests; and the use of the squirt with them is always the prelude to their most solemn feasts." This instrument is now most extensively employed in medical practice in our own age, and is sometimes spoken of as though it were a discovery due to the ingenuity of our modern mechanicians. The whimsical custom in question led the Portuguese to call the tree that produced the substance from which the syringes were made, *Pao di Xirringa*, a name still retained, as the trees are often called in America, the *Seringa* trees.

M. De la Condamine, being unable to prosecute further inquiries upon this subject, it was investigated by a M. Fresneau, an engineer, who had spent many years at Cazenove, in Guiana. Having seen a number of curious things made of caoutchouc, which were brought by the Portuguese and Indians from time to time to Para, he became extremely desirous of discovering the tree yielding so remarkable a material. He made a number of inquiries of the Indians, offering them valuable presents for any intelligence they would furnish him as to these trees. Failing to elicit the least information from them, he determined to hunt out the trees for himself. For a long time all his attempts were fruitless. Ultimately, however, he discovered a number of trees, and returned from his mission laden with a pair of caoutchouc boots, some elastic bottles, bracelets, &c. An account of his undertaking was published by the French Academy in 1751.

Subsequently, M. Aublet, who published a valuable work in 1775 upon the plants of Guiana, gives a very tolerable botanical account of the tree, which he had not the opportunity of seeing when flowering. He mentions that the fruit was eatable, and was much sought after by the natives. He partook also of the same fruit without experiencing any inconvenience from his repast. He gives the following statement of the method adopted for the collection of caoutchouc:—"The natives begin by making at the bottom of the trunk a deep gash, which penetrates into the wood. They then make another incision from the upper part of the trunk vertically downwards to the former one, and at various distances a number of oblique incisions are made, running into the first. These incisions form channels for the oozing sap, and convey it into a vessel placed for this purpose at the foot of the tree. In this the sap collects, loses its moisture, and becomes a soft elastic mass, which, when quite fresh, is readily made to take the shape of any instruments or vessels upon which it is applied, layer by layer. These are then dried by exposure to the fire. The moulds are sometimes made of unbaked clay, and are then removed by pouring in water, which softens them, so that the caoutchouc alone remains. Sometimes they are made of baked clay, and are removed by being broken to pieces, the elasticity of caoutchouc enabling it to bear the violence necessary, without injury to its structure." M. Richard, the eminent botanist, completed the account of the tree, and described its true botanical characters.

ADVICE.

NEVER build after you are five-and-forty; have five years' income in hand before you lay a brick, and always calculate the expense at double the estimate.—KERR.

CURIOSITIES OF PHYSICAL GEOGRAPHY.—No. II.

WE will now turn to the mighty deep, and to the waters of the globe generally. The depth of the ocean is very great in some places; for north of the Bermudas it was found to be nearly six miles. The pressure increases as we descend, and is so great that wood, which has been sunk to a considerable depth, has its pores penetrated with water to such a degree that it will no longer float. The ocean is darker than the darkest night in its lower regions; but in some part of the Arctic seas shells are clearly visible in four hundred and eighty feet of water; and in the West Indian seas the bottom is quite distinct at the same depth, the various hues of the submarine occupants of the ground being beautifully apparent. The true colour of the ocean is ultramarine, but every fitting cloud alters it, and organic and inorganic substances often tinge its waters: it is white in the Gulf of Guinea; black round the Maldives; vermilion off California; and so green in one place off the coast of Arabia that a ship has been seen to be in green water and blue at one time. Its saltness varies, the southern hemisphere being more salt than the northern; but the water of the lake of Eltonsk, east of the Volga, contains the greatest proportion of saline matter, and is thereby rendered the most buoyant water known. The Dead Sea is so saturated with salt that it irritates the skin, and towards the south pillars of this substance project from beds of sandstone. The waters of the Caspian are becoming more saline and smaller in quantity, because more water is evaporated than is supplied to it, though it receives large rivers and has no outlet. This sea is subject to heavy winds, which drive the waters over the land; a vessel was thus washed forty-six miles inland, and there stranded. The highest known waves are seen off the Cape of Good Hope in a north-west gale: their greatest height is probably about forty feet from the trough of the wave to its summit. The tremendous breakers on the west coast of Ireland occasionally rise one hundred and fifty feet, and the Bell Rock lighthouse, one hundred and twelve feet high, is actually enveloped in foam, when there is no wind, by the ground swell. A dry wind raises the sea more than a wet one; but in a gale the water is probably calm two hundred or three hundred feet below the surface. Vast currents occur in various parts of the ocean, and tropical seeds are brought by them in abundance to the coasts of Ireland and the Hebrides. In some parts of the Caribbean Sea it is said that a boat may be kept at rest on the surface of a sweeping current by lowering a heavy body down to some depth, where another current, running in an opposite direction, neutralizes the power of the upper one to drift the boat along. Winds and currents cause a necessarily circuitous voyage from Jamaica to the lesser Antilles to take nearly as many weeks as it takes days to return.

Could the Russians pass over the pole and through Behring Straits to their North American settlements, they would save a voyage of about twenty thousand miles. Icebergs drift into the Atlantic two thousand miles from their starting-place in the Arctic seas, and cool the water perceptibly for thirty or forty miles around them, and the air much further. Ross met with multitudes in the South Polar seas with perpendicular sides, from one hundred to one hundred and eighty feet high, and some were several miles in circumference. The seasons are not supposed to influence the ocean to a greater depth than three hundred feet. In a course of experiments it was found that a sounding lead

lowered to the depth of six hundred feet was so hot when raised that it could not be handled; this was probably owing to a submarine volcano or hot spring. The tide at Bristol sometimes rises fifty feet, and even reaches one hundred and twenty feet in the Bay of Fundy, in Nova Scotia, whilst there is scarcely any tide in the islands of the Pacific; up the Amazon it is perceptible for five hundred and seventy-six miles. The famous Maelstrom, on the coast of Norway, is a mile and a half in diameter, and the roar of this whirlpool is so loud that it can be heard miles off. In the rocks of Cephalonia there is a cavity into which the Mediterranean has been flowing for ages. The lakes of America contain more than one-half of the fresh water on the earth. The river Niagara unites two of these lakes, and forms the celebrated falls—the most sublime known. Lake Ontario and Lake Erie appear to be increasing in size; and in one of the bays of Lake Huron thunder is continually heard. A large lake of fresh water was formed in one night in Japan simultaneously with the uprising of a volcano from the earth. At the eastern end of Java there is a lake whose waters contain sulphuric acid, from which a river flows wherein no living creature is found, nor can fish live in the sea near its mouth. A fall of one foot in 200 renders a river unnavigable. The Rhone, which flows very rapidly, falls one foot in 2,620, and has a velocity of 120 feet per minute. The Amazon, with its enormous mass of waters meeting the opposing tidal current from the ocean at a short distance from land, raises a terrific wave at spring tides, which carries devastation before it, shaking the very islands, it is asserted, in its passage. The Rio de la Plata is never less than one hundred and seventy miles across for two hundred miles from its mouth, and its muddy water discolours the Atlantic for two hundred miles. The swift and turbid Mississippi sweeps away whole forests when flooded, and the trees, heaped together in thick masses, are carried down and deposited at its mouth, and in the Mexican Gulf, over hundreds of square miles. These rafts are from six to ten feet thick, and often several miles in length. A stream which joins the Magdalena forms the cataract of Zequendama, where the river, rushing through a chasm, descends five hundred and thirty feet at two bounds into a dark pool, illumined only at noon by a few feeble rays, and sending up a cloud of vapour visible fifteen miles off. The rivers of equatorial America vary in colour; both white and black waters are found there. In boring artesian wells, which are often of great depth, the water frequently spouts up to the height of forty and fifty feet. There is a hot spring in South America which has a temperature of 206° 6'.

Truly may we say with the Psalmist, "They that go down to the sea in ships, that do business in great waters, these see the works of the Lord, and His wonders in the deep."

Next in order comes the earth—"the round world," which "cannot be moved." This immense globe, nearly twenty-five thousand miles in circumference, sweeps along in its orbit at the rate of more than eleven hundred miles in a minute, revolving in the same space of time upon its axis with a velocity which turns its equatorial inhabitants through more than seventeen miles. The intensity of gravitation varies from local causes as well as from the form of the earth; it is feeble at Bordeaux, and increases to Clermont Ferraud, Milan, and Padua, this increase being probably caused by dense masses underground. The earth is more than five times as heavy as a globe of water of the same size, and more than twice the weight of a similar globe of granite. There is a stratum of variable depth beneath the surface

at which the temperature is always the same. The small portion of the earth through which man has penetrated—a mere atom of the distance to the centre—is arranged in layers called strata, in some of which the remains of animals and vegetables are found, converted often into stony matter. Amongst these productions of bygone ages were tree ferns fifty feet in height; gigantic plants of the fox-tail tribe; shells shaped like a coiled-up snake and as large as a cart wheel; lizards, some with long swan-like necks, others with enormous eyes, and others with wings. There were also immense lizards, seventy feet in length and fourteen and a half feet in circumference, and huge mammals eighteen feet long with two tusks bent downwards, with which it is supposed to have raked up aquatic plants and to have anchored itself to the bank of the river or lake on whose waters it thus slept floating. In the strata of Lyme Regis, in Dorsetshire, a sepia has been found in such preservation that a part of the black fluid given to it by its beneficent Creator, perhaps millions of years ago, to conceal itself from its enemies, has been used to paint its figure. The *Elephas primigenius* has been found entire, buried in frozen mud, and has served as food for wolves and dogs. Fossil remains are so numerous that with the exception of the metals and some of the primary rocks, every particle of matter on the surface of the globe has probably once formed a part of some living creature. Mountains are formed of minute shells; the tusks of fossil elephants have formed an article of trade for centuries, and whole islands in the Arctic regions are chiefly composed of the remains of such elephants. Coal—a collection of fossilised vegetable matter—occupies enormous spaces; the Appalachian coal-field in North America has an area of sixty-three thousand square miles, and that of Illinois, in the same country, is nearly as large as England. Could a person be raised above a point near Falmouth, until a whole hemisphere became visible, he would see the greatest quantity of land which can be beheld from any one place; and if raised above New Zealand, he would see the greatest quantity of water, so that England is nearly in the centre of the greatest mass of land. Nearly three-fourths of the surface of the globe is occupied by water. The Silla of Caraccas rises abruptly from the Caribbean Sea at an angle of $53^{\circ} 28'$, to the height of between six and seven thousand feet, which is the closest approach to perpendicularity of any known great elevation. Glaciers, a mixture of snow, ice, and water, move in the Alps at a rate of from twelve to twenty-five feet annually; but some there have not altered in shape or position from time immemorial, whilst others cover ground formerly cultivated. It is calculated that there are four hundred in the Alps alone, varying from three to fifteen miles in length and from one to two and a quarter miles in width; some of these have a thickness of six hundred feet. One pass across the Himalaya Mountains is twenty thousand feet above the sea, or more than four thousand feet higher than Mont Blanc. The journey over the lofty passes in this range of mountains is terrific; many animals die from the rarity of the air; birds perish by thousands from the wind, and violent storms add to the horrors of the passage. In the dreary regions of North-Eastern Siberia, Wrangel tells us that the people, and even the snow, both give forth a steam, and this vapour is instantly changed into millions of needles of ice, which make a noise in the air like torn satin. The raven in its flight leaves a long line of vapour behind, and the trunks of the thickest trees rend with a loud report. In the southern parts of these regions the glowing heat of summer produces a change like magic; the snow is scarcely gone when flowers of

various hues blossom, seed, and die in a few months. In the province of Cutch, in Hindostan, seven thousand square miles are alternately a sandy desert and an inland sea, for in April the wind drives the waters of the ocean over this tract of land, leaving bare a few grassy elevations on which wild asses feed. In Central Arabia a plummet was sunk to the depth of three hundred and sixty feet in the sand without finding a bottom. The Sahara Desert—as large as the Mediterranean Sea—is alternately burnt with heat and pinched with cold; and at the equinoxes the roaring of wind raises such clouds of sand that it is as dark as night at mid-day. The hot air in this desert is like a red vapour, and in the northern part of it saline particles raised into the air by the winds from the salt-encrusted ground glitter like diamonds in the sunlight. In the Andes there are cities, villages, and mines, at greater heights than the summit of what we consider lofty mountains: the highest city in the world is Potosi. Near Charichana, in South America, there is a rock which is musical at sunrise; something similar occurs at Mount Sinai. Immense plains are found in different parts of the earth, often nearly as level as the sea; there is frequently no eminence one foot high in two hundred and seventy square miles in the South American plains, some of which are covered with impenetrable thistles ten feet high; others with grass mingled with brilliant flowers, where thousands of horses and cattle feed; others by swamps and bogs which are annually flooded for thousands of square miles, when multitudes of animals perish, so that in some places they give the ground the odour of musk; others by thorny bushes and dwarf trees; others by dense impassable forests, in which myriads of animals live, filling the night air with one loud inharmonious roar, not continuously, but in bursts. Millions of animals occasionally perish on some of these plains, when their arid vegetation gets on fire from any cause. In North America, there is a tract of saline ground which is often covered to the depth of two or three inches with salt. In Canada, the trees with their branches are sometimes covered with ice an inch in thickness, whilst icicles hang from the boughs. The least wind brings them crashing down, and, should a breeze spring up, the forest at length gives way, tree after tree falls, carrying all before it, till the whole place resounds with terrific discharges like those of artillery. The highest mountain known is Kunchinjunga, in the Himalaya range, whose estimated altitude is 28,178 feet, or more than five miles and a quarter. If the Pyrenees were pulverised and spread over Europe, the ground would be raised six feet. There is a coral reef off the N.E. coast of Australia which is twelve hundred miles long, and which varies from two hundred yards to a mile in breadth for one thousand miles, during which its average distance from the shore is from twenty to thirty miles. In one part this grandest of all coral formations extends for more than three hundred and fifty miles without a single opening, and the break of the ocean swell upon it is described as majestic. Volcanos are more thickly distributed in Java than in any other place of equal size: in 1772, about ninety square miles of the surrounding country were carried down along with a huge volcano, the greater part of which was actually swallowed up; forty villages were destroyed by this catastrophe. In 1815, explosions from Sumbawa were heard nine hundred and seventy miles off, and in Java, at the distance of three hundred miles, the day was rendered as dark as midnight by ashes from this place; the ocean was found covered by them to the depth of two feet at the distance of more than one thousand miles, forming a mass, through which vessels, with difficulty, forced their way.

A traveller, who visited the crater of a volcano in the Sandwich Islands, in 1834, describes it as a deep basin of five square miles in extent, covered with masses of lava. It contained two lakes of this substance in a liquid state, in each of which there was a boiling caldron sending forth jets from twenty to seventy feet high occasionally, and streams of lava partially stayed in their fiery course by escaping gases, which threw backwards huge blocks, and actually spun them into glassy threads, borne by the wind like the refuse of a flax mill. This terrible commotion is carried on with a noise which is indescribable. A terrific eruption occurred in Iceland, in 1783, continuing for many weeks; the sun was hid for a long period by vapours, and a stream of lava, from twenty to thirty miles broad in some places, ran for nearly fifty miles, drying up some rivers and causing others to boil. In 1839, a lofty volcano was discovered in the South Polar regions covered with ice and snow from its base to its summit; from a cape not far distant, a perpendicular wall of ice, from one to two hundred feet in thickness, was traced for three hundred miles. This mass of ice was altogether about one thousand feet thick, including that part of it which was below the surface of the sea, and there was not a single fissure seen in it. Some volcanos emit only streams of boiling water, others mud, others gas and water. There are fire springs in China; they are holes of great depth from which gases issue, sending up a flame to the height of twenty or thirty feet, with a noise like thunder, when a light is applied. The valley of death in Java is a fearful instance of the effects of the emission of gases; it is a hollow, a mile in circumference, and about thirty-five feet in depth, whose bottom is covered with the bones of men, animals, and birds—no living thing can enter it without being suffocated. The village of Fredonia, in the State of New York, is lighted with gas which exhales from the earth. In 1822, an eruption from the mud volcano of Galunggung turned forty square miles into a desert, and destroyed not less than from ten to eleven thousand persons. In March, 1812, an earthquake at Caraccas destroyed ten thousand people in fifty seconds. At the earthquake of Riobamba, in 1797, from thirty to forty thousand persons perished, and many of the corpses were thrown across a river to a height of several hundred feet. It is reckoned not improbable that from one hundred and fifty to two hundred thousand persons perished by each of two earthquakes, one in the year 19, the other in 526.

At Guanaxuato, in Mexico, a subterranean roaring and thundering began in 1784, and lasted above a month; it so terrified the inhabitants that almost all of them quitted the city. In 1743, Guatimala, in Mexico, with all its riches and eight thousand families, was swallowed up by an earthquake; its site is now indicated by a desert. In 1822, a space of not less than one hundred thousand square miles was raised from two to six feet by the great Chili earthquake: beds of oysters, muscles, and other shell-fish were exposed to view. Scientific observers can detect earthquake shocks; in Great Britain sixty distinct ones were observed between July, 1841, and June, 1842.

The Great Geyser, in Iceland, sends forth at regular intervals columns of hot water, from one hundred to one hundred and fifty feet in height, and twenty-eight feet in circumference, followed by great quantities of steam. In a coal-pit in Derbyshire, there is a spring of mineral oil which throws up from thirty to one hundred and fifty gallons daily; the city of Milan is lighted with oil which springs from the ground. In one of the many mines in Cornwall, and that perhaps not one of the most extensive, the depth of

all the shafts added together is about twenty-five miles, and 2,500 people are employed in it. The greatest depth to which man has penetrated is 3,378 feet, in the now inaccessible mine of Kuttensburg, in Bohemia. At Fredericshall, in Norway, there is a cavern 11,000 feet deep. The largest diamond known is one found in Borneo, weighing 367 carats, and valued at 269,378*l*. In 1826, a piece of gold weighing twenty-three pounds was found at the foot of the Ural Mountains; eight hundred pounds was the weight of a mass of pure silver found in America. It is computed that the silver taken from the American mines, between the discovery of the New World and the year 1803, would form a globe eighty-nine feet in diameter. Twelve hundred tons of quicksilver are extracted every year from the mines of Almaden, in Spain; those of Guancavelica, in Peru, now almost abandoned, had produced fifty-four thousand tons at the commencement of the present century.

Here we pause for the present, with the exclamation of the Psalmist, "O Lord, how manifold are Thy works! in wisdom hast Thou made them all."

THE HAPPIEST DAY IN THE WEEK.



THE dew still glittered on the leaves of the thorn, still hung on the flowers of the woodbine, and sparkled on the harebell, when little Martha Truman tripped down the lane which led from her own cottage to a small but neat row of almshouses, belonging to the town of W—, in one of which lived a very respectable woman, who had been for many years blind. It was Martha's office to lead Nurse Clark to church, and as this was some distance from the village in which she lived, she was obliged to be thus early. She filled her hands with all the flowers she could collect, and then, fearful lest she should have overstaid her time, ran almost the remainder of the way.

"How are you, Nurse?" said she, as she entered the neat little apartment. "I hope you are quite well this morning. Look what a beautiful nosegay I have brought you." Nurse shook her head. "Ah! dear, dear," resumed Martha, mournfully, "I forgot you could not see; but smell," added she, with her wonted cheerfulness, "smell how sweet they are—you *can* do that."

She held the flowers to the good woman's head as she spoke. Nurse praised their fragrance, thanked her kind little friend, begged her to put them into a broken pitcher to which she directed her, and then place them within the grate.

After resting for a short time, the pair left the cottage and proceeded across the meadows to the church. The morning was more than usually lovely. Some slight showers of rain had fallen during the night, which had refreshed the face of the country, and given an appearance of universal verdure: the air was scented with the sweetest odour, the birds sung from every thicket and tree, and the bright but tempered beams of the sun spread additional beauty over the surrounding landscape.

"O Nurse!" cried Martha, "what would I give if you could see how pretty everything looks this morning!"

"It is very kind of you to say so, Martha," replied Nurse; "and I should be very happy indeed if I had eyes like you; but since it has pleased God to deprive me of sight, I will not complain. His will be done. He has taken away one blessing, only to bestow on me another—loss of sight has procured me a home: and besides, I have many enjoyments still; I can smell the sweet air, and hear the pretty birds, and (she raised her head, and half threw back her bonnet,) I can feel the soft pure breeze blow over my forehead. O! how pleasant it is! Let us rest a few minutes, Martha, for it is very warm, and we are yet quite early enough for church."

Martha guided the poor woman to a fallen tree, and then seated herself by her side. A light and happy heart makes words flow easily.

"Now, Nurse," said Martha, after a very short pause, during which her bright eyes had glanced on all sides over the fine country that surrounded them, "don't you think that everything is more pleasing, that the flowers smell sweeter, the birds sing more delightfully, on Sunday than on any other day of the week? I don't ask anything about the flowers, they can know nothing of the matter; but do you think the blackbirds and thrushes, and especially the larks, have any notion that it is Sunday?"

"No, certainly, they have not," replied Nurse; "God has given that happiness to human beings only. We alone know that 'this is the day which the Lord has made,' and that we ought to 'be glad and rejoice in it.' Don't you recollect what the good rector said last Sunday?"

"I dare say I shall remember something about it," replied Martha, "if you will repeat a few words."

"'The difference you feel is in your own heart,' said he, 'and not in what you see and hear. It is not that the sun does shine more bright, or that the fields are indeed more fresh, or the flowers more sweet upon this than upon any other day. It is only that we are apt to think thus because our minds are attuned to order, and to piety, and to contemplation.'"

"But don't you wish," said Martha, "it could be Sunday all the week long? would not that be charming?"

"No, Martha, no," replied Nurse, "I wish no such thing. God has ordered it otherwise; and whilst we are on earth we must attend to our earthly duties. The time will come when it will be always Sunday, though not in this world; and as we labour for the rest that the earthly Sabbath brings, so must we be content to labour for the rest of the heavenly Sabbath. But come, we must make the best of our way to church, or we shall be too late."

Martha instantly took the good woman's hand, and led her again into

the path. "Well, Nurse," said she, "I must not contradict you, because you must know better than I. The birds, the fields, the flowers, may be just the same one day as another; but this I must say, and will always say, Sunday is the best and the happiest day of the week."

"Nor will I contradict *you*," returned Nurse. "Sunday is all you say; and God grant that we, and all who feel as we do, may enjoy that Sabbath hereafter which shall know no end."



BISHOP HOOPER.

MARTYR, FEBRUARY 9, 1555.

DR. JOHN HOOPER, Bishop of Gloucester, and eminent for his piety and firmness of character, was one of the noble army of martyrs. A short time before his death he said, "I am come hither to end this life, and to suffer death here, because I will not gainsay the former truth that I have heretofore taught among you in this diocese (of Gloucester) and elsewhere. True it is, that death is bitter and life is sweet; but, alas! consider that the death to come is more bitter, and the life to come is more sweet. Therefore, for the desire and love I have to the one, and the terror and fear of the other, I do not so much regard this death, nor esteem this life, but have settled myself, through the strength of God's Holy Spirit, patiently to pass through the torments and extremities of the fire now prepared for me, rather than to deny the truth of his word, desiring you and others, in the mean time, to commend me to God's mercy in your prayers."

A short time before the Bishop suffered, he was heard thus to pray: "Lord, Thou art a gracious God, and a merciful Redeemer. Have mercy therefore upon me, after thy great mercy, and according to thine inestimable goodness. Thou art ascended into heaven; receive me to be partaker of thy joys, where Thou sittest in equal glory with thy Father. Strengthen me of thy goodness, that I break not the rules of patience; or else assuage the terror of the pains, as shall seem most to thy glory." To others he observed, "I doubt not but God will give strength to abide the extremity of the fire." His last words were, "Lord Jesu, have mercy upon me. Lord Jesu, have mercy upon me: Lord Jesu, receive my spirit." It is remarked, that notwithstanding his great sufferings, he died as quietly as a child in his bed: and we may hope that, as a blessed martyr, he now shares in the bliss prepared for the faithful in Christ before the foundation of the world: for whose constancy, all Christians are bound to praise God.

The following are some of Bishop Hooper's Reflections on death:—

1. He is blessed that loseth his life full of mortal miseries, and findeth the life full of eternal joys. 2. It is a grief to depart from goods and friends ; but yet not so much as to depart from grace and heaven itself. 3. There is neither felicity nor adversity of this world, that can appear to be great, if it be weighed with the joys or pains in the world to come. 4. Beware of looking too much on the felicity or the misery of this world ; for the consideration and earnest love or fear of either drawing from God. 5. Seeing all our salvation resteth in this, that we die in the Lord, whiles we be in health, let us learn this doctrine well, and exercise the same. 6. It is not a Christian's part to sleep in sin, as an ill soldier, till the trump blow ; neither yet to provide for weapon only till his enemy be upon him ; but to have it ready, that it serve as time and necessity requireth. 7. Live hereafter virtuously, that we may die godly. 8. Make ready, therefore, while ye have time for yourselves, in the blood of Christ, and study amendment of life. 9. Of none ye may learn so well as by the life and death, and also the doctrine, of the patriarchs, prophets, Christ, and the apostles ; whose example, if ye follow not here, in case hereafter ye never come where they be, thank yourselves.

ADDRESS TO THE NIGHTINGALE.

THE following poem has been generally attributed to Shakspeare, but it is now believed to have been written by Richard Barnfield, who lived at the end of the sixteenth century. Music has given the early stanzas a wide celebrity, which the moral of the later ones equally deserve.

As it fell upon a day
In the merry month of May,
Sitting in a pleasant shade
Which a grove of myrtles made ;
Beasts did leap and birds did sing,
Trees did grow, and plants did spring ;
Every thing did banish moan
Save the nightingale alone ;
She, poor bird, as all forlorn,
Lean'd her breast up-till a thorn ;
And there sung the dolefull'st ditty,
That to hear it was great pity.
Fie, fie, fie, now would she cry ;
Teru, teru, by and bye ;
That to hear her so complain
Scarce I could from tears refrain :
For her griefs so lively shown
Made me think upon my own.
Ah ! (thought I) thou mourn'st in vain,
None takes pity on thy pain :
Senseless trees they cannot hear thee,
Ruthless bears they will not cheer thee :
King Pandion he is dead ;
All thy friends are lapp'd in lead ;
All thy fellow birds do sing,
Careless of thy sorrowing !
Whilst as fickle Fortune smil'd,

Thou and I were both beguil'd.
Every one that flatters thee
Is no friend in misery.
Words are easy, like the wind,
Faithful friends are hard to find.
Every man will be thy friend
Whilst thou hast wherewith to spend ;
But if store of crowns be scant,
No man will supply thy want.
If that one be prodigal,
Bountiful thou wilt him call ;
And with such-like flattering,
" Pity but he were a king."
If he be addict to vice,
Quickly him they will entice ;
But if Fortune once do frown,
Then farewell his great renown.
They that fawn'd on him before,
Use his company no more.
He that is thy friend indeed,
He will help thee in thy need ;
If thou sorrow, he will weep,
If thou wake, he cannot sleep :
Thus, of every grief in heart
He with thee doth bear a part.
These are certain signs to know
Faithful friend from flattering foe.

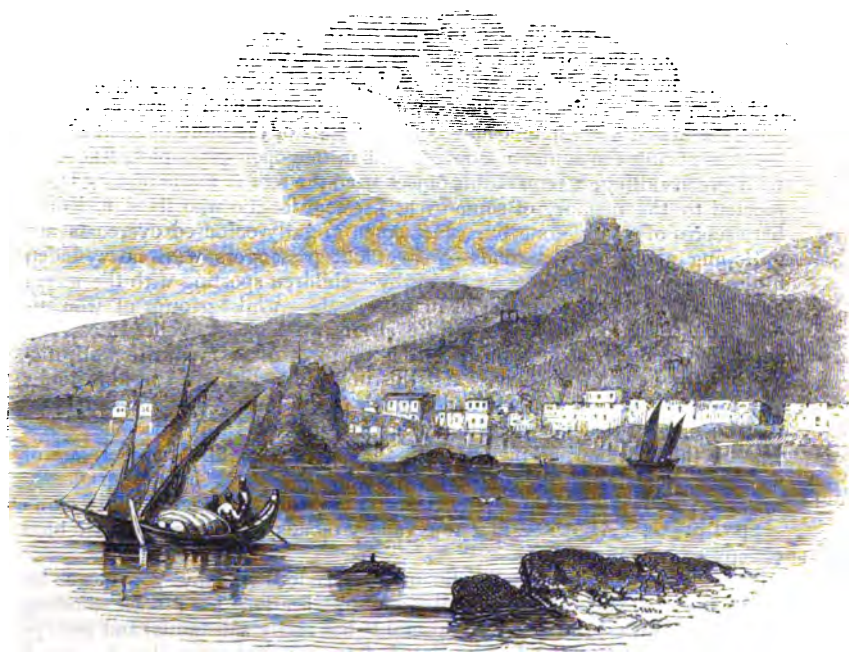
THE best rules to form a young man, are, to talk little, to hear much, to reflect alone upon what has passed in company, to distrust one's own opinion, and value others that deserve it.—TEMPLE.

THE
HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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SEA-COASTS AND SHORES OF CILICIA.—No. V.



SIDON

IN 1289 the last act of barbarity towards unoffending Sidon was perpetrated by the Egyptian Mamelukes, under the order of the then Sultan of Egypt, who, to the end that it might no more afford a shelter to or be a favourite resort of Christians, caused Sidon to be destroyed, and the pretty gardens and dwelling-houses were laid waste by the hands of the ruthless Egyptian soldier, or razed to the ground with fire. Few cities lay claim to greater antiquity than Sidon: it is supposed to have been founded by Sidon, the eldest son of Canaan, and if this be the case, it is now high upon four thousand years old. A Phœnician colony afterwards existed at Sidon, and, after

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the subversion of the Greek empire, Sidon fell into the hands of the Romans, who deprived it of its freedom to punish the citizens for their frequent revolts. From this date Sidon fell successively under the Saracen, Seljukian, Turkish, and Egyptian Sultans; till at the date above-recorded, five hundred and sixty-three years ago, the last act of despoliation was committed, and, in 1841, Sidon, in common with Palestine and Syria, again fell under the sway of the Ottoman Empire, after having been ruled by Ibrahim Pasha for a few brief years. Coasting along from Latachia we successively sight and pass the small island of Ricoel, Tripoli, and Beyrout, the ancient Berytus, and after running a distance of about one hundred and thirty miles, cast anchor within shelter of a long low ledge of rocks exactly opposite to the modern town of Sidon. The prospect from our vessel is really charming: a pleasant, sandy-beached bay extends as far as the eye can reach to the left; close down to the beach side are dense plantations, mulberries, olives, and countless delicious fruit trees. An occasional tall palm, waving its graceful branches to and fro, gives evidence that we have now reached a warmer climate than that of Laodicia or Antioch; whilst the handsome banana, with its rich cluster of golden fruit, bespeaks a mildness and peculiar adaptation of soil for this rare exotic, which is wholly unknown elsewhere in Cilicia, Syria, and Palestine. At intervals, peeping through and over the surrounding foliage, we are favoured with glimpses of the neatly whitewashed summer-houses, the retreats of the more opulent native families during the summer months; and in one open grass plot, fenced in with green railing, a remarkable object from the sea, is the handsome tomb erected to the memory of some great Moslem fanatic who lived and died here scores of years gone by. Horsemen in gaily-coloured overcoats are galloping about on the sands—weary foot passengers with heavy-laden mules or donkeys, plodding on their way—children sporting with the waves or running in reckless pursuit of fugitive crabs—whilst groups of women, clad from head to toe in snow-white sheets, with closely-veiled faces, are congregated under some favourite tree, or near some favourite well, discussing the news of the day. All this in the hot light of sunshine looks gay and enlivening; but what adds much to the beauty of the prospect is, that beyond all this amalgamation of animal and vegetable life, nature has framed this enchanting picture with the lofty and interminable range of Lebanon mountains, dark and sombre-coloured down below, gradually verging into lighter hues as they rise, and terminating in perpetually snow-capped peaks. Above these a few vapory clouds, and then the wide blue canopy of heaven.

Directly opposite to us is the modern Sidon (if any place can be called modern, parts of whose walls and fortifications have been standing through centuries), a not only respectable but really substantial and pretty-looking town. Some two hundred yards from the anchorage is an insulated castle now in ruins, which was, we believe, greatly damaged by the shots from the British ships of war in the last expedition. This castle communicated with a fortress on the shore by means of a permanent bridge crossing over the sea, and sustained upon twelve or fifteen really handsomely-built arches; portions of this bridge have also gone to decay. Beyond this is the landing-place and the town itself. The town is built partly on a hill which was once well fortified, and whose summit is crowned with a castle now used as a monastery; to the left of the town the steep cliffs gradually increase in height till they abruptly terminate in a headland, beyond which nothing save a vast extent of ocean meets the eye. Having indulged in this

survey we descended into a little cockle shell of a boat, and were landed on a rather dangerous and slippery flight of steps, up which, however, with the assistance of native boatmen, we successfully scrambled. We entered the town through a massive gateway, under whose pleasant shade a number of old men were assembled smoking, drinking coffee, and playing at their favourite game of backgammon. The gates of the cities are still the favourite resort of the elders; here they receive homage and give wise counsellings. This practice reminds us forcibly of the usages of the patriarchs: when Israel was angered against David for mourning the death of his rebellious son, to pacify the people he went and sat at the city's gate. "And they told unto all the people, saying, Behold, the king doth sit in the gate." (2 Sam. xix. 8.) The streets of Sidon are much assimilated to those of all other eastern towns; but the strange practice exists of causing the terraces of the upper stories of houses to extend across the street, supported on frequent substantial arches, which at the same time that they effectually exclude the heat and rain, also exclude the light, rendering it irksome and disagreeable in the extreme for uninitiated strangers to traverse the town from one quarter to another. Emerging from one of these tunnelled thoroughfares, we found ourselves opposite to the massive and handsome gateway leading into the French khan, originally a large caravansary for the accommodation of travellers and their beasts of burthen, but which, having fallen into the hands of the French Government, has been converted partly into a consular residence, partly a school-house, and partly for the accommodation of travellers. The large square contained within these walls has been set apart for the special cultivation of bananas, and here, indeed, they seemed to flourish with equal vigour to those we have often met in Madras and other Indian settlements; the buildings, which were of great antiquity, looked as solid and firm as in their pristine condition, and whilst examining the exquisitely-carved beams that supported the roof of one of the consular offices, we were forcibly reminded of the pleasant fact that we were actually scrutinising the workmanship of men, descendants of a people of whom the wise king Solomon had said, "There is not among us any that can skill to hew timber like unto the Sidonians." (1 Kings v. 6.) Greatly, however, have some amongst them degenerated in this art from the days of Hiram, king of Tyre, if we might be permitted to judge from the very modern gateposts which supported the doors of the various chambers, and which had been grotesquely notched in absurd imitation of the before-mentioned beams. The interior of the houses at Sidon were cleanly, the people extremely hospitable; most of the native Christians had friends and connexions in those parts we had visited, and the very fact of coming from the same place was an introduction to their civilities. Whilst chatting in friendly converse with these people, the Arab captain came to warn us that that night the wind promised favourably for us to pursue our voyage; we thought of the days of the Apostle Paul, "And the next day we touched at Sidon, and Julius courteously entreated Paul and gave him liberty to go unto his friends to refresh himself." (Acts xxvii. 3.) Although the vessel that Paul sailed in was evidently of larger construction than our own, still, from the number of other passengers, he must have been as cramped for room and miserably accommodated as we were in the smaller *feleucah*, and we knew, therefore, well how to appreciate the privilege accorded to the suffering Apostle on that occasion. There was this wide difference, however, in our situations, viz., that the Apostle cheerfully undertook and cheerfully bore perils and fatigues, privations, sufferings, and contempts, when

he had for object the honour and glory of the Lord ; and that we, who were wholly unworthy, murmured at the smallest interruption to a successive enjoyment of pleasures, for, of a verity, in these more civilized days, the path of the traveller may be said to be strewed with flowers where it was even not very long since beset with thorns.

Sidon is now computed to contain upwards of 12,000 inhabitants, two-thirds of whom are Mahometans, the rest Christians and Jews, the number of Christians being much the more numerous of the two : they still continue to be a very industrious people, excelling in the manufacturing of silk shawls and gaily-ornamented silk toshia, a species of wide handkerchief bound round the red caps of the men, partly to more effectually protect their heads from the sun, and partly for ornament's sake. Besides a large quantity of silk annually shipped from this port, of late years grain has been exported by ship-loads into Algeria and some of the European ports ; the anchorage for vessels of a large tonnage is very insecure during the winter months ; an evil which would speedily be remedied were Sidon under the sway of any European power, because the natural shelter afforded by the rocks, which extend for some distance in a parallel with the town, might easily be brought to be the basework of a breakwater, such as, if skilfully built, would for ages resist the force of the waves. With these advantages, Sidon might very soon acquire for herself almost such a reputation as she possessed in the days of Solomon. Availing ourselves of the kind invitation of one of the European consuls, who placed horses at our disposal, we rode round the gardens in the environs. As we passed along the thickly-planted hedge, we observed the native gardeners busily occupied in gathering the yet unripe peaches and other fruits for the markets of Beyrout and Acre, as these were considered vastly superior in quality to those grown at either of the above places. Vast quantities of timber hewn in Lebanon was being transported to this place, some on the backs of camels and horses, whilst the more bulky sort was being trained down by yokes of oxen : all this we were given to understand was intended for new buildings in the town, both warehouses and private dwellings, a sure sign of the rising importance of the place, and one from which we may argue, taking Beyrout and Jaffa as precedents, that Sidon may in a few years rival any other sea-coast town in Syria with respect to population and commercial enterprise. Arriving at an elevation we had a fine view of the whole town, the bay and the shipping, with such a tranquil sea—so bright an evening sun—so cool an evening breeze, and the limpid water of a little streamlet trickling by as we alighted and, seating ourselves on some rough stones, quenched our thirst from that delicious spring and fell into a reverie. This was the same Sidon whose workmen helped to rear that Temple which was the glory of its age : over the very ground on which we were then seated, doubtless, countless timber had passed on its way down from the mountains to the fleets ready to convey it hence to Joppa ; the mountains were the same, the plain was the same, the ocean the same, the workmanship of man only had fled ; the dew of night and the pleasant breeze of evening, these were the same as in the city's most triumphant days ; thousands of dead men slumbered in the plains below, their places only were vacant—for the wild flowers and the fruits, the stately tree and the bush, these were as plentiful and as luxuriant as ever.

A VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—NO. XII.
 ZOOLOGY—THE ABORIGINAL INHABITANTS, THEIR MANNERS AND
 CUSTOMS.

THE Zoology of Australia is more singular than beautiful. It possesses no large animals, and but few varieties; and the attention is much more likely to be arrested by the peculiar habits and structure of the subjects themselves, than by the elegance of their forms, or the richness of their colours. As we have already mentioned, Australia has been termed the land of anomalies, and the zoology of the continent is certainly no exception to the fact; for Nature, in the creation of such forms as she appropriated to this region, seems to have determined to mark them with some peculiar character inconsistent with those rules she had adopted in the formation of all her other productions. That form, for instance, which in other parts of the world she has confined to the smallest races of quadrupeds—the rats and the dormice—is here bestowed upon the kangaroos, the largest tribe of four-footed animals yet discovered on this continent; but these wonderful creatures, instead of fabricating warm and skilful nests beneath the earth, for the protection of their young, in like manner to all other mouse-like quadrupeds, are provided with a natural nest in the folds of their own skin, where the young are sheltered and protected, until they are able to provide for themselves. The great kangaroo is, in fact, the largest and most typical quadruped of the whole Australasian range: the total absence of such animals as lions, tigers, deer, oxen, horses, bears—in short, of all those races spread over the rest of the world, is the most striking feature in the zoology of this continent. It is further remarkable that nearly all the quadrupeds either actually belong, or are intimately related, to the *Glires* of Linnaeus. Two-thirds of the Australian quadrupeds make their way by springing in the air. It may also be mentioned that out of fifty-eight species of mammalia found in Australia, forty-six are peculiar to it, and twelve only are found in other regions. Even out of these twelve, four are seals, and five are whales. As already indicated, however, kangaroos are almost the only important animals: there are many varieties of this animal, from the “kangaroo mouse,” which is about the size of a small rabbit, to the “forester,” which stands from four to five feet high. The bound of the kangaroo is prodigious, sometimes exceeding twenty paces; and this can be kept up for a considerable time, so as to enable the animal to distance the swiftest greyhound. Within the marsupial pouch the careful mother shelters her helpless young, letting them out by day to graze on the tender herbage, or carefully conveying them across rivers or through forests, when pursued by her enemies, until they are able to provide for their own sustenance and safety. The kangaroo has rarely more than two at a birth, and is an extremely timid animal, unless when hard pressed for life, when it will set its back against a tree, boldly await the dogs, and rip them up with its hind claws, or give them a formidable squeeze with its fore-arms, until the blood gushes from the hound's nostrils. Sometimes the poor creature will take to the water, and drown every dog that comes near it. It is, however, extremely docile, and, with a little trouble, can be brought to follow its owner about the house or garden like a dog, eat out of the hand, and made as tractable and interesting as any other “pet” animal.

One of the most remarkable animals in Australia is the platypus (*Ornithorhynchus paradoxus*)—it has four legs, but has a bill exactly

similar to that of a duck : lays eggs, and suckles its young. Its length from beak to tail is about fourteen inches, the circumference of the body eleven inches, beak two and a half, tail four and a half. It resembles the otter, though of inferior size ; is covered with a very thick, soft, and beaver-like fur ; the head is flat and rather small ; and the legs short, terminating in a broad web, which on the fore feet extends nearly an inch beyond the claws. It is very shy, and only found in unfrequented places. It swims low in the water, frequently in company with the musk duck, and dives very rapidly. This very singular animal exhibits more decided indications of a union between the two great divisions of the vertebrata, than any quadruped yet known.

Birds are numerous, of great variety, and often of a beautiful plumage. The Emu, or cassowary, is one of the most singular ; its covering is more like hair than feathers, and from its being confined to the earth, the creature partakes little of the character of a bird : it is extremely fleet, outstripping the swiftest dog, and it kicks with such violence as to be able to break a man's leg : it is, however, easily tamed, and becomes as domestic as a dog. From six to eighteen eggs have been found in one nest, and they are of stronger flavour than those of the ostrich. A portion of the emu is considered good eating, the flesh tasting like beef ; but other portions are very oily and disagreeable. It is rapidly disappearing from the occupied districts.



EMU.

The gigantic crane is a stately bird, about six feet high, of a pale ash colour, with a reddish tinge on the head : it is frequently seen on the borders of lakes and rivers, where also the black swan is found. The bus-

tard, or native turkey, weighs from fifteen to eighteen pounds, and is good eating. Eagles and hawks are numerous: some of them white and very large, the eagle-hawk measuring nine feet from wing to wing, and feathered to the toes. The pigeons and doves are certainly the most beautiful in the world; the general tint of their plumage is a rich green, variegated with red, purple, or yellow about the head and breast; but others occur of a brown colour, relieved by spots on the wings of the richest colours, equal in brilliancy to the finest gems. The beautiful parrots, parrakeets, and cockatoos deserve notice also from their variety and brilliancy of plumage, their large numbers, as also from the facility with which the latter in particular are domesticated and taught to imitate sounds. Some of the cockatoos are of a milk-white, others black, richly variegated on the tail with red, and with superb crests. There are a large number of other extremely interesting birds, which it is not within our limits to enumerate or describe. We may, however, spare space for an illustration of that singular and beautiful bird, the lyre-tailed pheasant.



LYRE-TAILED PHEASANT.

Insects are very numerous, and of every variety, and have long afforded to the entomologist a wide field for examination. Locusts are common in some parts of the continent; butterflies are neither plentiful nor beautiful; of bees there are three kinds, the principal of which is not larger than a common-sized winged ant, and all of them are destitute of stings; these careful providers form their nests in the hollows of trees and rocks, and produce a large quantity of delicious wild honey. English bees have been

introduced, and are multiplying fast. Ants exhibit several varieties, of which the largest, called the "gigantic," measures nearly an inch in length: their mounds are not raised so high as those of the ants in Africa, but they are more solid and compact. Flies are a great nuisance in summer, and one species in particular, called the blow-fly, taints and putrifies everything it touches. Mosquitoes have a particular partiality for new-comers, whom they attack for a short time with more than special eagerness; but they are gradually disappearing before civilization. Spiders are very large; one species in particular makes its nest in the earth five or six inches in depth, and with a door over it which is always left open when he is at home and "on hospitable cares intent."

Reptiles are not at all in such numbers as are to be found in marshy countries. There are several varieties of snakes, a few of which are poisonous. They are attacked and killed by the settlers wherever they are seen, and are gradually becoming scarce in the settled districts. They are generally small, and always glide away as rapidly as possible at the approach of a human footstep. The only danger from them is by accidentally treading on them when in the bush, when they will turn and bite; but this is a danger easily avoided by not travelling without high boots.

Fish are plentiful along the coast, but few are found in the rivers, especially those on the east side of the Blue Mountains, owing perhaps to the rapidity of their currents. Whales frequently come into the bays to calve; and seals are found in many of the coves, especially to the southward. The cod-fish (so called) is taken in the fresh-water rivers west of the Blue Mountains in great quantities and of a large size, some of them weighing as much as 70lbs. They are delicious eating, as are also the eels, which are caught of the weight of from 12 to 20lbs. Perch, covered with scales and prickly fins, abound on the east coast rivers, and in flavour and juiciness bear a great resemblance to the sole. There are many varieties of other fish, including an abundance of delicious oysters, which are so plentiful in the harbour of Port Jackson that the rocks are not only literally covered with them, but they are found adhering to the twigs of the trees which overhang the water, which has given rise to the statement that in addition to the other anomalies which Australia presents to us, the oysters are there found growing on the trees.

The aboriginal inhabitants of Australia belong to the class of Papuas, or oriental negroes. They have the thick prominent lips, white teeth, and, in Van Diemen's Land, the woolly hair of the African negro; but the nose is less flat, and the limbs much leaner. The theories of those philosophers who have represented man in the savage state as in the perfection of his being, and his evils as arising from the artificial arrangements of society, find here their most ample refutation. All idea respecting the fabled innocence of the state of nature must vanish on beholding the New Hollander. The state of nature is indeed complete. There is no society, no government, no laws; each man acts according to his own fancy and caprice. The arts of life exist in their first and rudest elements. The people were found unacquainted either with planting, or with the breeding of tame animals, and deriving their support solely from hunting and fishing. Those in the interior subsist by collecting the roots and berries which grow spontaneously, pursuing and laying snares for the squirrel and opossum, and even devouring worms and grubs that are found in the trunks of trees. Their huts are of the rudest possible description, resembling the dens of wild beasts; they consist often of the bark of a single tree, bent in the

middle and placed on its two ends in the ground, affording shelter to only one miserable tenant ; at other times two or three pieces of bark arranged upon a few sticks stuck into the ground, will afford a hovel into which six or eight persons may creep ; these habitations they call "gunyahs."



NATIVE GUNYAH.

They often, however, content themselves with cavities in or under the shelter of rocks, which in well-chosen situations form their most comfortable abodes. They are able to strike fire by rubbing two pieces of dry grass-tree together ; and they light their fire, when they require one for cooking, opposite to the entrance of their gunyah, which they take care to construct so that the smoke is driven in the opposite direction ; should the wind shift, they immediately, and in a very few minutes' time, alter the position of their habitation accordingly.

They roam about entirely naked, with the exception of a girdle round the middle, and occasionally a skin thrown over the shoulders. In the neighbourhood of the towns, however, they are furnished by the Government with blankets, and also occasionally obtain from the settlers articles of left-off clothing, in which they envelope themselves. They are by no means insensible to ornament, and will coat their skin thickly with fish oil, regardless of the horrible stench which it emits, and adorn themselves with such trinkets as the teeth of the kangaroo, the jaw-bones of large fishes, and the tails of dogs ; and they also occasionally thrust a bone through the nose, which they believe to be efficacious in keeping away the "deble debel."

The females are mere slaves, doing all the work which is essential for their "lords'" comfort ; and female children are looked upon with contempt, and very frequently destroyed, which is one great reason for the gradual diminution of their numbers. The ladies generally carry their infants in a bag thrown over the shoulder, but they occasionally dispense with the bag, and simply throw the child itself over the shoulder, holding

it by one leg, while the head of the "lovely innocent" hangs down at the back, swinging about like a human pendulum. At the age of fourteen or fifteen they attain puberty; and the young men undergo the important ceremony of having two of the front teeth of the upper jaw extracted or knocked out, which has the effect, according to their notions, of making "men" of them; and as a consolation for this barbarous infliction, they are then at liberty to take a wife: which latter affair is arranged by the youth going to a neighbouring tribe, and on seeing a damsel to suit his taste, commencing his courtship at once; this he does in a summary manner, by greeting his intended with a blow or two with a "waddy" upon the skull, which in these people is so remarkably thick that but little permanent or injurious effect is produced by the operation. Should a blow or two not be sufficient, he continues the process until his "ladye love" becomes insensible; he then seizes her, and drags her to his own habitation, and the "happy couple" are forthwith united. Should he take a fancy to more than one, their laws do not forbid him to indulge himself with half-a-dozen or more, but the former ones are generally allotted to other less fortunate youths, who may be lingering in single blessedness from the scarcity of the "sex."

The men are first-rate shots and good riders, and their senses of sight, hearing, and smelling are so acute, that they are able to track a person over hard rocky ground where no trace whatever would present itself to an European eye—to tell whether anything is moving for an immense distance round, and they can tell by smelling at a tree whether an opossum is lodged in its trunk or branches. They have a few very peculiar superstitious notions, the principal one of which must evidently have been only of modern origin: it is, that after death they immediately reappear on the earth as white people; to use their own expression, "they fall down black fellows and jump up white fellows;" and many amusing instances are related by the colonists of their having been continually pestered by the affectionate embracings of some native "mamma," who fancied she had traced in their lineaments the features of some son or other relative she had recently lost. They are exceedingly indolent, and it is with great difficulty that any of them can be persuaded to perform the simplest kind of labour, although they are aware of the value of money and anxious to possess it. To such an extent is this carried, that even at the gold diggings, they will stand by calmly looking on at the energetic operations of the miners, and with a perfect knowledge of the value of the metal they are procuring, but without evidencing the smallest inclination to participate in the search. Neither will they, if any colonist should take the trouble to teach them the art of planting food, either believe in his instructions, or wait the time necessary for the attainment of the product. Dr. Mackenzie mentions, as a proof of this, that a friend of his gave some potato-cuttings to one of them, telling him that if he planted them he would soon obtain young potatoes from them. The black fellow went and put them beneath the ground, and watched them carefully for two days, at the end of which he went to his instructor, and told him with much chagrin that the potatoes had not yet "jumped up," and inquired if they would "jump up" in two days more, and on being told it would probably be as many days as he had fingers, he at once dug up the cuttings and ate them, saying that "white fellow was all gammon." None of the efforts which have yet been made appear to have had the effect of giving them the slightest relish or desire for the comforts or

advantages of civilization ;—the blacks who lounge about the streets of Sydney never, in any instance, appear to emulate anything but the vices of the lowest class of society ; they are servile, cringing, cunning, and dissipated whenever they have the opportunity of indulging in dissipation.

Widely different, however, from these, are the wild inhabitants of the forest, roaming at freedom over the immeasurable plains, bearing on their shoulders their weapons of war or of chase, yielding submission to no human power, and with a characteristic elasticity of movement, firmness of step, and dignity of gait, proclaiming, not in words but in every gesture, their hereditary rights and independence.

Dr. Mackenzie mentions it as his decided opinion, that if any remnant of the race can be saved from that gradual process of extermination to which they appear at present doomed, and brought over to a civilized condition, it can be only by the efforts of some of those missionaries of apostolic zeal, unconquerable enterprise, and imperturbable self-denial, who, like Mr. Elliott with the Red Indians of North America, will join themselves to the camps of the aborigines, study their language, follow them in their wanderings, live on roots, grubs, and opossums like themselves, and gradually make an impression upon their feelings, habits, and manners, until they begin to recognise the truth of Christianity and the benefits of a civilized state of existence.

THE BELL-ROCK LIGHTHOUSE.

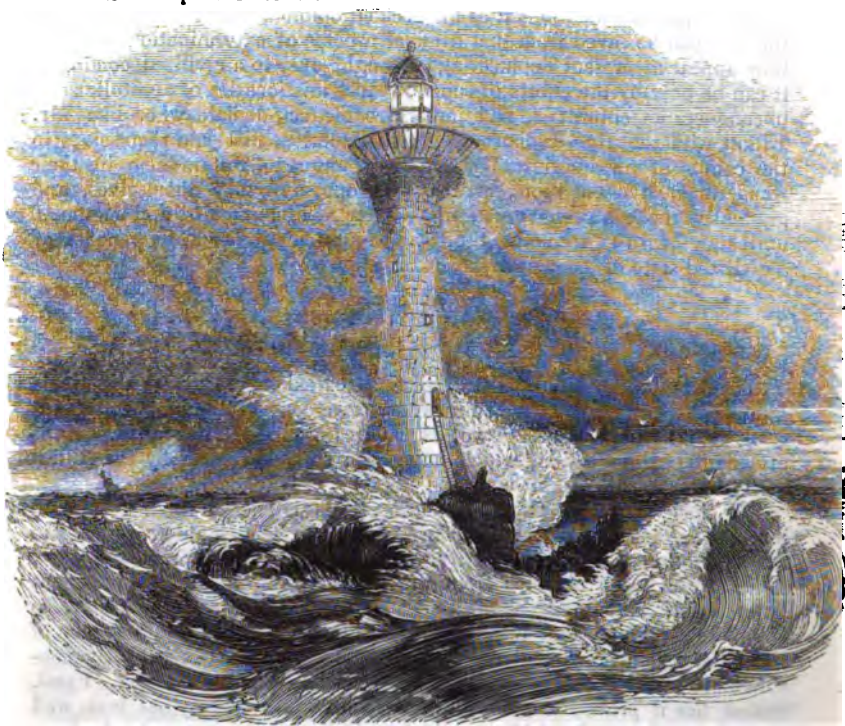
THIS celebrated structure, which has been called the Eddystone of Scotland, is one well worthy our notice, whether we consider the important aid it lends to navigation, the beauty of its architecture, or the interesting details attendant on its erection, which have been so well related by the skilful architect, Mr. Stevenson.

The rock on which this lighthouse stands is one of those terrors to mariners, so situated in the German Ocean as to be a complete obstacle to the safe entrance of any foreign vessel into the Firths of Forth and Tay : it is at the same distance from the shore as the Eddystone reef, but differs from the houserock at that place by being, at high water, so completely covered, that it does not, like the Eddystone, form a beacon of itself during the day, and consequently the reef of rocks is justly considered to be the most dangerous one on the whole coast of Britain. Fatal, indeed, has it proved to many a gallant ship whose destiny has been well ascertained ; but a fearful list might be added of missing vessels who have here met their doom unnoticed and unknown.

" In ocean's deepest, darkest bed,
The secret slumbers with the dead ;
This sole memorial of their lot
Remains—they were, and they are not."

The Bell Rock has also been called the Scape and Inchcape Rock, either from the word scalp, a kind of shell-fish, or from the resemblance it may at one time have borne to a skep or bee-hive ; and as the term cape applied to a sunken rock seems a strange one, we may suppose that Inchcape is also a corruption of the term Scape, by which it is still distinguished in all old sea charts. Its present name of Bell Rock is said to have arisen from the Abbots of Aberbrothwick having caused a bell to be so hung upon it, that the tides brought certain machinery into action which rung the bell,

as a warning to mariners. Tradition tells us that this benevolent apparatus was wantonly destroyed by a Dutch pirate, who, to complete the interest of the tale, was afterwards lost with his ship and crew upon the sunken rock he had so inhumanly deprived of its beacon. It does not, however, appear probable that any machinery of the kind could have been brought to be useful in such a locality, and its removal is not only disgraceful to humanity, but incompatible with the veneration entertained by the seamen of all nations for such landmarks. The tradition has had its use in furnishing Mr. Southey with materials for one of his popular ballads, called *Sir Ralph the Rover*.



The name of the Bell Rock most probably took its rise in a far more natural way, from the shape of that part of the rock which has now been removed to make room for the lighthouse, and which, at low water, bore a resemblance to both a bee-skep and a bell. It measured about 427 feet in length by 230 in breadth, and the baneful effects of such an obstruction to navigation had been long and severely felt, not only by the commercial interests of the Friths, but by all vessels navigating the North Sea and the German Ocean; for not only were many vessels lost upon the rock itself, but far greater numbers were cast away upon the neighbouring shores in endeavouring to avoid it, or foundered at sea, in consequence of keeping out too long, from the terror of approaching a coast where such a sunken enemy lay in their course. The great inlets for shipping in storms upon the eastern coasts of Great Britain are the Thames, the Frith of Forth, and the Murray Frith. To these, vessels resort in storms from the north,

east, and south-east, and in such cases the Frith of Forth is in a peculiar manner a place of safety; and it is a melancholy fact, that in the December storm of 1799 upwards of seventy vessels were lost on the eastern coast of Scotland, many of which might, in all human probability, have been saved, but from the dread of the Bell Rock preventing them from seeking refuge in the Frith of Forth. It is, therefore, no matter of surprise to find that the erection of a lighthouse on the rock, to serve as a beacon by day and a warning light by night, became a matter of general as well as local importance; and though the construction of such an edifice, on a foundation twelve feet under water during the ordinary rise of spring tides, would be one requiring great skill, anxiety, and a large outlay of money, all obstacles were finally overcome, and in 1806 an Act of Parliament was obtained, enabling the Board for the Erection of Lighthouses in Scotland to levy duties and borrow money for the purpose. Various plans were now submitted to the consideration of the Board, one of which proposed a building to be erected on pillars of cast-iron, another on those of stone; but the Board, having directed Mr. Stevenson to survey the rock, he was engaged to build a lighthouse of stone, on the plan of the Eddystone. The Act of Parliament having provided for a loan of 25,000*l.*, and the Board having surplus duties to the amount of 20,000*l.*, they were thus in possession of a fund of 45,000*l.*, to which might be added the surplus duties expected to arise during the progress of the work from the exhibition of a floating light on the spot. This beacon, a Dutch fishing vessel, taken during the war, was moored at the distance of about two miles from the rock, answering the double purpose of a floating light and a tender for the workmen employed in the erection of the lighthouse. It was rigged with three masts, on each of which a large copper lantern, containing ten lamps, with small silver-plated reflectors, were made so to collapse and traverse, that the light was seen in every direction; but although the vessel was fitted out with every attention to stability, it was thought necessary to give a warning to mariners not to trust the beacon in very tempestuous weather, as, from the peculiarly exposed situation, it was liable to break from the firmest moorings.

The crew was necessarily a strong one, as after every gale of wind the moorings required to be lifted and examined, to ascertain that all was right, and a master, eight able seamen, and a boy, were not too many for the important task. On the 9th of July, the *Pharos*, as it was called, was towed out to its destination, and when it arrived, two of the crew, appearing to be for the first time fully aware of the probable danger of the service, deserted, with all due speed. Their place was, however, soon supplied by more enterprising men, and such, indeed, were really required, as the task of mooring the vessel was one of tedious and perplexing difficulty.

A workyard for preparing granite and other building materials was provided at Arbroath, and when these were completed under Mr. Stevenson's personal superintendence, he embarked on the 17th of August 1807, and began the work upon the Bell Rock.

The first employment was to bore a sufficient number of holes for the support of a temporary residence on the rock for the workmen during the summer months, such a construction being found indispensably necessary, not only to give confidence to the workmen while upon the rock, in case of accident to any of the attendant boats, but also to give greater facility to the work. Though firm, the building was very simply constructed of beams of timber fifty feet in length, ranged in a circular manner, forming a

diameter of thirty-six feet on the rock, and meeting together at the top; on these a wooden house was erected, consisting of three floors: the first was occupied as a cooking-house and provision store; the second, which was much encumbered with the meeting in a point of the principal beams, formed only the cabins of the foreman and engineer; the upper, or third compartment, was wholly converted into a barrack-room, in which three tiers of beds were fixed, making it capable of holding about thirty artificers. Below these apartments, and at the height of twenty-five feet from the rock, a floor of a more temporary nature was fixed, where the mortar was prepared, and which also served as a forge and workshop for the smiths to sharpen their tools, &c. On several occasions during the progress of the work, the violence of the sea lifted up this floor, when not only the lime, casks, lighter, apparatus, &c., and the floor itself, were sent adrift, but even the smiths' anvils and implements were to be sought on the rock.

After one of the gales of a preceding night, Mr. Stevenson mentions his great uneasiness at seeing on the following morning, as they approached the rock, what appeared to him to be a human figure hanging over one of the ledges of the rock, in a most perilous position. Fearing to find the scene of their labours further strewn with such melancholy evidences of the perilous position of the Bell Rock, but without communicating his apprehensions, he hastily steered for the point, and had the inexpressible comfort of finding that he had only been deceived by the peculiar situation and aspect of the smith's anvil. Notwithstanding the perils to which it was exposed, this barrack continued for five years to be useful as a shelter, and none of the beams were shaken, although at every return of the tide they were immersed from eight to twelve feet in water. Before it was constructed, the labours and hazards of the first season were very considerable, as the workmen had, at the time of every tide, to go to and from the Pharos to the rock in row boats, each containing sixteen people, and on many occasions, when the wind shifted suddenly, it was most difficult to get back. The act of getting in or out of a boat to the Pharos was a work at all times of peril, from the rolling of the vessel. A man might often be seen clinging to the gunwale of the Pharos, at one moment close to his boat, at the next so high above, as to see his comrades in the boat on the other side; in fact, it required both courage and agility to leap into the boats at all.

After a time, however, the men became fond enough of the duty to row in the boats against each other, an emulation which, as well as boat-racing for amusement, Mr. Stevenson wisely encouraged, for dreary and monotonous indeed was the life led by the seamen on board the Pharos. Riding at anchor in the open sea, without the company of shipping or the pleasure of intercourse with the shore, a place visited but once in turn during every six weeks, nothing but the dread of impressment enabled these able-bodied seamen to endure their position with any degree of patience. The perils of the first season were also sufficient, one would suppose, to have quite disheartened the workmen employed, as they were frequently exposed to the risk of losing their lives by such occurrences as the following:—On the 2nd of September 1807, while the artificers, thirty-two in number, were busily occupied on the rock, a gale arose, during which the Smeaton tender broke adrift from the moorings, thus leaving them upon the insulated rock, which, in the progress of the flood tide, would be laid under water to the depth of at least twelve feet in a stormy sea. There were at this time but two boats attached to the rock, whose complement even in fair weather did not exceed twenty-four sitters; but to row to the Pharos with so much

wind and so heavy a sea, a complement of eight men for each boat was as much as could possibly be attempted, so that at least half of those employed on the rock must be left to destruction. Under these circumstances, had Mr. Stevenson ventured to despatch one of the boats, in expectation of either working the Smeaton sooner up to the rock, or in hopes of getting her boat brought to the assistance of the rest, it would have given an immediate alarm to the artificers, each of whom would have insisted upon taking to his own boat, and thus leaving the eight workmen belonging to the Smeaton to their fate. The unfortunate circumstance of the Smeaton being adrift was, for a considerable time, known only to Mr. Stevenson and to the landing-master, who removed to the further part of the rock, keeping his eye steadily fixed upon the progress of the vessel. While the artificers continued at work, chiefly in kneeling and sitting postures, excavating the rock or boring with their tools, and whilst the noise of their numerous hammers and the sound of the smith's anvil continued, the state of things did not appear so appalling. But at length the water began to rise upon those who were at work on the lower parts of the beacon, and from the heavy run of the sea the forge fire was extinguished sooner than usual. The volumes of smoke ceased to obscure the view from the rock, and after having had about three hours' work, the men prepared as usual to make towards their respective boats for their jackets and stockings; to their dismay they then discovered the fact that but two boats were to be found, the third being adrift with the Smeaton. Not a word was uttered by any one, but each, with looks full of perplexity, appeared to be silently calculating the number of the party. The landing-master, fearing that blame might be attached to him for allowing the boat to leave the rock, kept at a distance, whilst Mr. Stevenson stood on a part of the rock, marking the progress of the Smeaton, and the workmen either fixed their eyes upon the drifted vessel or looked steadfastly at their leader. "All this," says Mr. Stevenson, "passed in perfect silence, and the melancholy solemnity of the group will never be effaced from my mind." With his usual energy he did not long remain inactive, and was about to address the workmen on the expediency of stripping off their clothing, that they might thus, when the highest parts of the rock should be under water, be prepared to swim, and that a specified number of men should go into each boat, and the remainder hang by the gunwales, while the boats were gently rowed towards the Smeaton, as the course of the Pharos lay rather to the windward of the rock. "But," continues Mr. Stevenson, "when I attempted to speak, my mouth was so parched that my tongue refused utterance, and I now learned by experience that the saliva is as necessary for speech as the tongue itself. I turned to one of the pools on the rock and drank a little salt water, which produced immediate relief." At this critical moment, greatly to the delight of all, some one called out "A boat! a boat!" and on looking round a large one was seen through the haze making towards the rock, and the party were thus mercifully rescued from their perilous situation. The effect of this accident was that when the bell rung next morning and the workmen were mustered, out of twenty-six only eight besides the foreman and seamen appeared on deck, to accompany the engineer to the rock. "The use of argument to persuade the men to embark in cases of this kind would have been out of place, as it is not only discomfort, or even the risk of the loss of a limb, but life itself, that becomes the question." The boats proceeded to their destination with the eight willing workmen; four hours were passed upon the rock, and, on returning to the Pharos, the

eighteen men who had remained behind seemed so ashamed of their cowardice, that on the next journey to the rock they were the first to embark. This appears to have been the only instance of shrinking from duty, though shortly after the whole party on board the *Pharos* was exposed to a fearful gale, which not only kept them from the rock for ten days, but exposed them to imminent danger. The floating light broke adrift, and though no damage was sustained in consequence, the circumstance imparted a character of extreme hazard to a life on board, and it was with difficulty that seamen were found to undertake the duties of manning it. Yet, although the sea often wore a very alarming appearance, the beacon was a great means of divesting it of its terrors. From the excellent guide it had already proved to shipping, old and experienced sailors were gradually induced to cruise with much confidence both by day and night in the vicinity of that rock which had once been to them an object of dread. The beams of the beacon had also their effect on the workmen, giving them a stimulus to work, that so important a benefit might be the more permanently secured. "Every heart and hand was anxiously and zealously engaged, for the artificers wrought at the beacon as for life; or somewhat like men stopping a breach in a wall to keep out an overwhelming flood."

HISTORY OF CAOUTCHOUC.—No. II.

CAOUTCHOUC continued long to remain an article chiefly confined to the cabinets of the curious. Its extraordinary properties were the admiration of a few learned persons, for the greater part of the last century, and there appeared little prospect of its ever becoming applicable to the purposes of ordinary life. It was known hitherto only as a product of Cayenne in Guiana, and other countries on the eastern coast of South America, and was called from its properties of removing marks of dirt or pencils upon paper, by the English, India-rubber, by the French, *peau de nègre*. Much investigation was directed into its properties by the scientific, as it was easily perceived that, could it be made amenable to treatment, it gave promise of becoming one of the most useful and valuable substances. The attention of the French chemists was largely occupied with a variety of experiments, undertaken with a view to discover a menstruum in which this intractable material might be made to dissolve. In the *Memoirs* of the Academy of Sciences are repeated accounts given of the difficulties of the undertaking, and of the limited degree of success which attended it. The grand object was to discover some fluid which would restore the solid caoutchouc to the same, or a similar state of fluidity, with that possessed by it on its first flowing from the tree. M. Macquer, after a prolonged series of experiments, discovered that caoutchouc was soluble in the purest ether, at the ordinary temperature, and the solution was transparent, and of an amber colour. Upon this solution being thrown into water, it was decomposed, and there rose to the surface a thin pellicle of caoutchouc, possessing most of the properties of that substance in its natural state. M. Macquer was successful also in applying this solution to the manufacture of tubes and other instruments. In order to form it into small tubes, he adopted the following ingenious method. He formed his mould of wax of the desired shape and size, and then dipping a pencil into the ethereal solution of caoutchouc, he daubed the mould with it till he had covered it over with a coat of caoutchouc of sufficient thickness. The whole piece was then thrown into hot water, by the heat of which the wax was soon

melted, and rose to the surface, leaving the caoutchouc tube completely formed behind it. Mr. Grossart, a subsequent experimenter, states that he succeeded very well in employing the essential oils of turpentine and lavender as a solvent for caoutchouc, and thus forming it into tubes, or giving it any shape that might be desired. M. Grossart, by an unaccountable perversion of ideas, declares that he succeeded in dissolving it by means of water. An examination of his experiment proves that he mistook the effects of heat upon this substance, for the softness of incipient solution. No experiment has succeeded in restoring caoutchouc to its original fluid state, the state in which it flows from the tree.

Meanwhile, other sources of this substance were discovered. It was heard of in Guinea, in China, in Sumatra, and in many of the East Indian islands and provinces. As its production became more universally known, its use became also more universal, and it ceased to be regarded as a curiosity. It was now beginning to be imported from America, and subsequently it formed an article of East Indian commerce, from which regions at the present time large supplies are derived. About the end of the last century an English gentleman—a surgeon—Mr. Howison, endeavoured to render caoutchouc more universally applicable to the wants of civilized life, and being then a resident in one of our East Indian settlements, he undertook a series of experiments with this view. He discovered a tree whose milky juice yielded it in abundance. He contrived to make boots, gloves, and a number of articles of dress by first forming moulds of wax of the required shape, and then coating them over with the liquid juice gathered for this purpose, and preserved in hermetically-closed bottles, by which for a short time it could be kept in a liquid state. He also dipped in the juice an elastic cloth, hoping to be able to produce a waterproof fabric. This experiment proved perfectly successful, and he had the novel gratification of preparing for himself a complete waterproof suit of clothes, sufficiently elastic for comfort and wholly impervious to moisture. These experiments were sufficiently singular in their results to attract notice, and much interest on the subject of caoutchouc was excited. Dr. Roxburgh being at the same time in India, his attention was drawn to the subject, and he published a botanical account of the tree yielding the substance. Some years later, a friend sent this gentleman a vessel called a jurong, filled with honey in the very state in which it had been brought from the Pundua or Juntipoor mountains north of Silhet. This vessel was a common, or rather coarse basket in the shape of a four-cornered, wide-mouthed bottle, made of split rattans, several species of which grow in abundance amongst the above-mentioned mountains, and contained about two gallons. Dr. Roxburgh's friend drew his attention to the fact that the inside of the vessel was smeared over with the juice of a tree which grows in the mountains. He was therefore more anxious to examine the nature of this lining than the quality of the honey. The jurong was emptied out, and, to the gratification of Dr. Roxburgh, he found it very perfectly lined with a thin coat of caoutchouc. On inquiry, the tree yielding it was discovered, growing in the chasms of the rocks in mountain declivities. The milk obtained by incision, while in its recent, undecomposed state, was employed by the natives of these mountains—in other respects a most barbarous and ignorant race—to coat the inside of such of their rude utensils as were employed to hold fluids. The same substance in its solid state supplied them with candles. They informed Dr. Roxburgh that they did not know of any mode by which it could be dissolved after it had once solidified.

While fresh sources of this wonderful substance were being continually discovered, the problem of its solution remained still unresolved. A little consideration and microscopic examination of the fresh juice might have informed those who sought to restore it from its indurated to its former milk-like condition, of the futility of the attempt. They might as easily have turned the curd of milk back to its original state in the fresh fluid, as thus affect caoutchouc. As we shall again have occasion to observe, the coagulation and separation of the liquid caoutchouc is a process which nothing can prevent, and it were as rational to attempt the re-solution of the coagulum of the blood, and the restoration of its separated constituents to their pristine state, as to hope to effect a similar change when caoutchouc is once separated into clot and whey. The experiment was, however, the chimera of many ardent minds at the commencement of the present century. If success were possible, the reward was so certain to follow the discovery, that no wonder that many eager speculative chemists threw all their energies into the investigation. We have been told of one, a young student of medicine, who, bent upon the search, hired a lonely attic in a poor quarter of a great city, and there laboured hard to accomplish the object he had in view. It was of necessity that such attempt should be wholly without success—caoutchouc could never be made to return to its once milky state. The investigation was not unlike that after the philosopher's stone. All these experiments were not, however, without some fruit. The lonely student in his garret is said to have been the inventor of one of the most important methods of treating caoutchouc now employed. A cheap, abundant, and effectual solvent was discovered by him, and by others about the same time; and the attempt to reduce solid caoutchouc to its original state of milk was finally abandoned. The medium employed for this purpose was what is commercially known as naphtha, or spirit of tar; and this is now in common use at the present day. For some time, however, no progress was made in the manufacture of any article from this solution. The subject appeared to have been forgotten by the majority. Mr. Macintosh was however long in experimenting upon it, and having at length completed his investigations, and successfully applied the solution to the production of water-proof articles, he applied for a patent for his invention, and shortly after, the valuable articles of dress now possessing a universal celebrity, called after their inventor's name, came into extensive use. From this time a number of minor improvements in the manufacture, and of fresh and important applications of the material, have raised caoutchouc to its present valuable position. To one of the most singular and successful modifications of this material—vulcanized caoutchouc—we shall have presently to advert. This is, however, to be said, that the desirableness of manufacturing waterproof clothing from the fresh milk appears to us still to remain. Although a portion of the offensive odour of the solvent disappears in time, yet mackintoshes always retain with obstinacy an unpleasant, and to some an intolerable odour. For our own part, we see no difficulty in establishing a waterproof manufactory on the banks of the Amazon or Marañon. The Americans have set us the example of a successful manufacture of shoes on the spot where the juice can be had fresh, and a very little additional machinery, which might be worked by water-power, would enable them to turn out a beautiful impervious fabric, lighter than the ordinary Macintosh, and entirely destitute of its offensive peculiarities. Mr. Howison's method was to lay a piece of cloth smoothly upon a table, and then pouring the fresh milk upon it, spread it evenly

with a ruler and hang it out to dry. But one of the spreading machines which we have presently to describe, would do the same work far more effectually, and could get through a large quantity in a day. A material thus prepared would of course not fall within the prohibitory limits of any existing patent, for it is as old almost as the discovery of America itself. Cajeput oil has been recommended as a solvent for caoutchouc, but its expense is too great, and were it otherwise, its odour is far from being agreeable.

CUTTING OF THE KOH-I-NOOR.



THIS precious stone, which was the cynosure of the World's Exhibition in 1851, caused some disappointment from the somewhat dim radiance of its lustre. This disappointment suggested the desirability of effecting such alterations in the shape of the diamond as would remove the admitted defects of the oriental cutting. The opinions of various scientific gentlemen were taken, and, some doubts having been expressed to as the possibility of cutting the gem without running a great risk of its destruction, Professor Tennant and Mr. Mitchell were requested to examine and report upon the practicability of the suggested improvement. Those scientific gentlemen accordingly prepared a report, wherein they admitted the improvement which the proposed alteration in shape would effect upon the Koh-i-noor, but expressed fears lest any lateral cutting should endanger its integrity. It was then determined to submit the matter to the opinion of practical lapidaries, and the Crown jewellers (Messrs. Garrard, of

Panton-street, Haymarket) were instructed to obtain a report from competent persons. Those gentlemen thereupon consulted Messrs. M. and G. Coster, of Amsterdam (the diamond-cutting trade having been entirely lost to this country), who, while admitting the accuracy of the fears expressed in the report of Professor Tennant, nevertheless were of opinion that the dangers were not so formidable as to prevent the intended operation from being safely effected. This opinion was sufficiently encouraging to induce an order for the preparation of the requisite machinery to be erected upon the premises of Messrs. Garrard; and, accordingly, a small steam-engine, from two to four-horse power, was erected under the directions of Mr. Joshua Field, of the firm of Maudslay, Field, and Son. The late Duke of Wellington manifested great interest in the precious gem, and attended several times during the progress of the preparations, and was present the first day the engine was put into operation. The Koh-i-noor having been imbedded in lead, with the exception of one small salient angle, intended to be first submitted to the cutting operation, the Duke placed the gem upon the *scaife*, a horizontal wheel, revolving with almost incalculable velocity, whereby the exposed angle was removed by the friction, and the first facet of the new cutting was effected. This step in the operation formed but a small item of the process, as it was expected the work, under the hands of the two Dutch artists to whom it had been intrusted, would occupy a period of some months. The Koh-i-noor was intended to be converted into an oval brilliant, and the two smaller diamonds which accompany it were to be similarly treated as pendants. The original weight of the principal gem was 186 carats, and the process of cutting has not diminished in any material degree its weight, while it has largely increased its value and developed its beauties. Some doubts have been cast by Sir David Brewster upon the identity of the Koh-i-noor, but the general opinion among those best acquainted with the subject appears to be that it was impossible for Dhuleep Singh to have palmed off a fictitious diamond, when the constant habit of wearing it on State occasions must have rendered it perfectly familiar to thousands, who would instantly have detected any attempt at substitution. The more probable assumption is that the weight of the "Mountain of Light" had been somewhat exaggerated. The brief historical sketch of this celebrated diamond is as follows:—The Koh-i-noor was found in the mines of Golconda, and was presented by the Viceroy of the Deccan to the Great Mogul, from whose successors it was taken by Nadir Shah. On the assassination of Nadir Shah it was seized with his treasury by his general, Ahmed Shah, the Abdalee, who took it to his native country, Afghanistan, of which he became the Sovereign. His descendant, Shah Soojah, when obliged to fly his country, took it with him, and, throwing himself upon the protection of Runjeet Singh, was, by a little torture skilfully applied to the mind and body, made to surrender it to his generous host. On Runjeet's death it was inherited by Dhuleep Singh, and on the late revolt and defeat of the Sikhs it was yielded to the British Crown, by special clause in the treaty then concluded.

HE is a fool who cannot be angry; he is a wise man who will not.—
OLD PROVERB.

OUT OF ONE'S TIME.

"You will stand then by what you said last week," cried Tom Cowley, to his friend Walter Horsman; "we were bound apprentices on the same day, and our time is to be out on the same day; we are of the same age, of the same business, the same in—"

"Nothing else," interrupted Walter; "never were two people more unlike than you and I."

"Pooh, pooh," cried Tom, impatiently, "we won't talk about that; my question is, will you, as you agreed the other day, stand treat with me in a supper at the Raven, to celebrate our emancipation, as I call it? I have spoken to two or three of our friends, and found them all ready to join us; so now, what have you to say?"

"That I am as agreeable to the proposal as either you or they," returned Walter, "but with the same proviso now as before,—that it shall not cost more than I said."

"Ay, take care of that whatever you do," cried Tom, with pretended gravity; "well, well, it shan't cost more; I give you my word. But why are you so particular? what do a few shillings, more or less, signify on such an occasion? they would not ruin you; it is a thing that can happen but once in our life: you are not in debt, are you?"

"Yes, I am," replied Walter.

"You don't say so," said Tom, fixing his eyes in astonishment upon him; "well, I am surprised; if any one but yourself had told me such a thing, I should have said it was a downright—I shan't say what to you, because I don't think you ever told a falsehood in your life; but how have you managed it?"

Walter smiled.

"My debt is one which I neither am nor wish to be able to discharge; it is a debt I owe to my dear, self-denying mother, but as I can never repay her in full, I have set my mind on purchasing something to remind her of my coming out of my time. A little token of gratitude to her for the past, and an earnest of something better hereafter."

Tom coloured, and attempted a joke by way of concealing that he had received a tacit reproach.

"A sort of payment, by way of instalment," said he, "or a first dividend, with hopes of a second, to be paid with cheques on the wind."

"I hope not," replied Walter, seriously; "the bank on which I shall draw will honour my cheques, or—"

"Then I'll order the supper, and invite the party, shall I?" said Tom, quickly. "If the thing is to come off, let it come off."

Walter gave consent, and all was speedily arranged, to the satisfaction of both parties.

The evening arrived, the guests were assembled, and the supper smoked on the table; the provisions were of the best kind, and youth, health, and a good appetite, made everything appear excellent. When the meal was ended, Tom proposed asking Mr. Holmes, the landlord of the Raven, to take a glass with them, a proposal to which Walter cordially assented, and a message, delivered by the waiter, brought him immediately into the room.

"I should have much pleasure, gentlemen," said he, "in accepting your invitation, if I was not, in a manner, already engaged; you know Mr. Mathews?"

"Who travels for Thompson and Harvey, Bolton?" said Tom.

"The same," replied Mr. Holmes. "He came in about an hour ago. He has had his supper, and has just asked me to finish a bottle of wine with him."

"I'll go and ask him to join us," said Tom, rising, "shall I, Walter? the more the merrier; that will stand good to both parties,—it will be merrier for Mr. Mathews to be with us, and merrier for us to have two such gentlemen as you amongst us."

Mr. Holmes bowed.

"But don't leave the table," said he; "I will speak to Mr. Mathews myself."

He did so, and soon afterwards returned with Mr. Mathews. When both were seated, and the glasses of all filled, Tom rose to give the first toast.

"The Queen, gentlemen," said he, speaking at the top of his voice, "with three times three."

"But shouldn't we drink our late masters' health, first?" cried Walter, "they have been good and kind friends to us, and they are nearer to us than—"

"No, no!" exclaimed Tom, impatiently; "the Queen's health first; she is the head and top of all; there is no flourishing for any one without her. So now, gentlemen, up with your glasses, and astound the old raven with your cheer."

He was punctually obeyed.

"Well done!" said Mr. Holmes, as they all reseated themselves. "My raven never croaked at the name of the Queen, as I am aware of; but if ever he did you may depend upon it, he will never, after this, disgrace himself in such a way again."

A hearty laugh followed; nor was Mr. Holmes the least satisfied of the party with this sally of that wit, which was, as he believed, always at the tip of his tongue.

"Now, Walter," said Tom, "for the health of our late masters, Messrs. Wright and Jackson, with prosperity to the firm. We'll drink this too, gentlemen, if you please, with three times three."

The toast was drunk with animation, as was that which Walter next proposed,—the health of the females of the family they had just quitted.

"Walter never forgets the ladies," said Tom; "he is the politest fellow in the world."

"I don't know for that," returned he, colouring; "but I am quite sure that much of our comfort during the whole time of our apprenticeship, was owing to the ladies in our house; and if good hereafter follows us, much of our success will be owing too to them. For my own part, I shall always think of them with the greatest respect and gratitude."

"So shall I," said Tom; then lowering his voice, he added in an audible whisper to the young man next him, "but they were not quite so kind to me as they were to him."

"I am glad to hear you speak in this manner," said Mr. Mathews, addressing himself to Walter; "it tells well for both parties. I have heard foolish young men use very different expressions on occasions like the present, and I have always considered it as a bad omen. The judicious superintendence of a female, the restraint which her presence imposes, the good manners that she either forms or confirms; the trifling, not to say improper, language which she checks; the home associations which her

maternal conduct serves to keep alive, all act as so many auxiliaries to future well-being, to future success, and to future morality of word and action in a well-disposed young man, and often have a beneficial effect upon others not so steadily inclined. A virtuous woman is in every truth the crowning blessing of a man's life, conferring happiness, and promoting the welfare of all around her."

"There's no gainsaying that," said Mr. Holmes; "but give me leave now to propose a toast,—the health and prosperity of the founders of the feast."

"With all my heart," replied Mr. Mathews, filling his glass.

"And a good fortune and soon," cried one of the company.

Both Tom and Walter felt flattered by the way in which this toast was received, and both returned thanks, the first with confidence, the latter with some degree of painful modesty; the one as a matter of display, the other of grateful necessity.

"That was a sensible amendment of yours," said Tom to the young man who had last spoken. "The fortune that is so long coming that we get old before it arrives, is worth but little after all."

"No, indeed," replied the other, "you may with truth say that; where is the use of sitting a man down to a feast, let it be ever so sumptuous, if he has neither taste left to relish its delicacies, nor teeth to chew them."

"Where, indeed!" cried another; "but that is usually the case. When a man can leave off business, and might enjoy in quiet what he has been labouring to acquire, age or infirmity makes him fit for nothing but to totter on a stick, or sit in his easy chair, pore over the newspaper only to forget the markets as soon as he has read them, or laugh at what his grandchildren are telling him, though he is too deaf to connect two sentences together out of all they are boasting about."

"But you have forgotten the mid-day of life, and its uninterrupted career of business," observed Mr. Mathews; "does no enjoyment, do you think, attend the active course which leads to wealth?"

"Little enough, I suppose," replied the other; "there can be no great enjoyment, one may conclude, in toiling day after day, week after week, and year after year, looking at every penny you spend, always calculating what you can and what you can't afford, and obliged to give up a pleasure, because it is not *quite prudent* to gratify yourself; the slave of other persons, whom, because they are your customers, you are afraid to offend, and for interest say what they say, and profess to think what they think; to get up early and go to bed late; always under restraint, always compelled to self-denial, plenty of work, and little relaxation, no variety—no—"

"Silence," said the chairman; "silence, gentlemen, a song."

The song was sung and loudly applauded; another and another succeeded; and though the style of each was different, all gave pleasure.

"It is now your turn," said Tom, addressing Mr. Mathews, "no one escapes."

"But I am no singer," replied he; "perhaps some gentleman will do me the favour to sing a song for me."

That was declared to be inadmissible.

"I am very sorry," said Tom "but you must either sing, or say, or forfeit."

Mr. Mathews shook his head.

"Say,—I am sure you can," exclaimed Mr. Holmes, turning to him, "I

have listened many a time to your stories, and with more pleasure than ever I listened to any man's songs,—no offence though to the company present."

"A story! a story!" cried several voices at once.

"Not a very long one, though, nor a very sad one," said one; "it is easy to have too much of a good thing, and we are too happy in reality to wish to be made unhappy for nothing."

Mr. Mathews smiled.

"I will do my best to amuse you," said he; "if you get tired, give me a sign, and I will be as silent as that clock, which our host, you perceive, does not allow to strike the hour."

"And quite right, too," said Tom; "where's the use of being put in mind of that which is gone for ever?"

"I think I could give a reply to that question which should satisfy you," returned Mr. Mathews; "but there is a time for all things; and to press serious truths in a convivial party is no proof, in my opinion, either of good, sense or good taste."

"But the story, don't let us lose time," cried one—and he cleared up his own voice, as if he was the person to deliver it.

"It is now about eight years ago," began Mr. Mathews, "that I was spending an evening in just such a party, and on a similar occasion as the present, at a hotel in Norwich. The two young men who are the heroes of my story had been known to me for some years. They were both steady, intelligent, active young men: one perhaps was a little more lively and sanguine in his disposition than the other, but in point of character and talent they were pretty equal. The greatest difference between them lay here: Atkinson was more aspiring than Mitchell, his views were directed to the end, the other's to the means.

"I will attend to the business," said Atkinson, 'that I may amass a fortune: my desire is to be rich.'

"I," said Mitchell, 'will attend to business that I may support myself, and those who may chance to depend upon me.'

"I will avail myself of any and every opportunity that may offer itself, in my own way or out of it, which gives reasonable promise of answering the end I aim at.'

"I will stick to my business," said the other, 'not till it deserts me, but as long as I can hold by it: unless it casts me adrift, I will never forsake it. If I get rich it shall be by degrees, and, as I may say, in a legitimate manner; wealth with me, if it ever arrives, shall be a result, the consequence of unremitting industry and application.'

"And you will do as you say," returned Atkinson, 'or you will be a very different character from what you have been. And so will I do as I have said, and so I tell you frankly that I shan't scruple to bolt in my course if I think it will do me good.'

"Both went to London as journeymen in a principal west-end establishment. Mitchell afterwards returned to the country, and hearing of an opening in a town not far from Norwich, he entered into business for himself. Atkinson remained longer in town; then, following his friend's example, he also came back to his native place, where, after remaining a short time, he was offered a share in a well-established business. He had a pretty property to begin with, which the other had not, and consequently he began life under the more favourable circumstances. Our house supplied both. As long, therefore, as Atkinson remained in business, which was about two years, I saw them twice a year constantly.

THE
HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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SEA-COASTS AND SHORES OF CILICIA, &c.—No. VI.



SOUR, THE ANCIENT TYRE.

A FAIR, bold coast, a gently rippling sea, and our small boat, like a sea-gull, skims the water's surface. What a fine-looking city is yonder! High up on the embankments, partly obscured by rich foliage, partly standing forth boldly in the sunshine, its loftier houses and tall minarets dazzling in the light, like streaks of silver drawn upon the clear blue sky! Stranger, yonder city is the shadow of the past—a mirage on the oasis of time, the ghost of bygone splendour. There are rocks in the ocean, not far from

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the shore—bare, naked, bleak-looking rocks—the small boat of the fisher plies actively from one to the other, spreading the torn nets to mend and dry; what rocks can these be? The breeze freshens before the query is answered; and, sailing in beside the mainland and the rocks, the anchor is cast, and we have arrived at Tyre. “I will scrape her dust from her, and make her like the top of a rock: it shall be a place for the spreading of nets in the midst of the sea; for I have spoken it, saith the Lord God:” and now the stranger is answered, the God of truth hath spoken, and the God of power hath fulfilled the words. We gaze upon the dreary waste of rocks in vain endeavours to recognise even ever so small a stone or fragment of the city of the tribe of Asher. It would require a powerful imagination indeed to conjure up a hut, much less a city, on the sharp-pointed, cleanly-laved rocks before us; and so we turn despairingly to the mainland: but here, from the low deck of our small boat, nought is perceptible, save the sea-sand and the deep-rutted embankments, profusely overhung with thyme and wild myrtle; and yet we are exactly half-way between, and within a stone’s throw of each—of Tyre Proper and Insular Tyre—and are vacantly gazing on their sites.

Tyre, the daughter of Sidon (Isaiah xxiii. 12), was supposed to have been built two hundred and forty years before the temple of Solomon, or twelve hundred and forty-five years before Christ; and Tyre was twofold continental and insular, the latter the most ancient, and mentioned by Joshua; but the former, from its better position, first rose into pre-eminence, assuming the name of Palæ-Tyros, or Old Tyre. This city is said to have measured nineteen miles round, whilst that on the rocky island never exceeded two miles in circumference. Old Tyre resisted the Assyrian power for five years, wells being dug within the city to supply the want of the springs Shalmaneser had cut off; and it afterwards held out thirteen years against the King of Babylon. It is said that Alexander the Great connected the mainland with insular Tyre by means of a huge causeway, constructed from the ruins of old Tyre. Not one stone upon another of this mighty undertaking remains above ground, heaps of sand having covered it, and connected both cities. Insular Tyre rose into very great notoriety after the fall of Palæ-Tyros, and attained to opulence as a maritime state. Both are now swept from the face of the earth; of old Tyre or of insular Tyre not a vestige is to be seen. “Thou shalt be built no more,” says Ezekiel (xxvi. 21); “though thou be sought for, yet shalt thou never be found again.” A fearful doom, fulfilled to the letter! We landed upon the deserted beach, on which, as on the rocks, long ranges of nets were exposed to the sun; whilst every here and there a meanly-clad fisherman was disentangling the seaweeds, or fresh cording the broken parts. Baskets of fine red mullets, the spoil of last night’s fishing, were carefully deposited in deep holes dug out in the sand, so as to admit of the sea-water entering to preserve their sweetness. They were poor enough—these fishermen—and meanly enough clad, in all conscience: and yet, if possessed of the smallest sense of enterprise, these very fish (whole basket loads of which are daily wasted and thrown on the beach) would yield them a comfortable revenue, if carried to Beyrout, a distance that might easily be sailed in a few hours, under the shelter of the land, and with the regular land breezes. Before leaving the beach, we turn again to look for some fragment of insular Tyre: the sharp-pointed rocks, foam-besmeared by the rippling of the waves, meet our gaze, and beyond this the fathomless ocean; and of those very rocks it was said, “Tyre did build herself a

stronghold, and heaped up silver as the dust, and fine gold as the mire of the streets. Behold the Lord will cast her out, and he will smite her power in the sea, and she shall be devoured with fire."—(Zech. ix. 3, 4.) And this prophecy was fulfilled when Alexander stormed and set fire to the city. With such mournful reflections we sauntered up from the beach, and passing a few dilapidated arches, ruins of the once famous aqueduct, entered upon the mulberry plantations, which now yield a moderate annual revenue to the modern town. The day was hot, and the refraction from the sandy soil occasioned an intolerable glare; but goldfinches and linnets were carolling sweetly from the branches of the fig and the olive trees, doubtless busy building themselves their own small cities, which, like Tyre of old, were destined to be scattered and swept away by the winter of time.

After wandering for some time amongst pleasant little lanes, we eventually emerged from the gardens, and came upon a very busy scene of labour, one which might faintly recall to mind the bustle of that vast and populous Tyre, which stood forth alone in the world, unsurpassed, unrivalled in commercial enterprise. The monsoon, or silk season, had now commenced, and all the occupants of the village were actively employed reeling off the cocoons into silk. On the outskirts of the village several temporary ovens had been erected, and close beside these ovens stood the great and clumsy wheels, also temporarily set up for the occasion. The construction of these ovens was extremely simple, and somewhat in the shape of the pictures we see of the altars built for sacrifice. These ovens, on the flat surface of the top, had hard-baked earthenware basins, as large as an ordinary washhand-basin. The lower part served as a furnace, the fire of which was kept alive by the incessant supply of firewood. Apparently the reeling gave occupation for the whole household: the wife turned the wheel by means of a handle, similar to those used on barrel organs; the husband, seated on a high stool, plied the wheels with threads gathered from the cocoons, which were parboiled in water heated in the basin; one of the daughters fetched cold water to mix with the water heated in the basin, so as to keep it down to a certain temperature; another, with a large basketful of cocoons, supplied the place of such as were reeled off, or were any ways imperfect; or with a bunch of dried twigs whipped those in the basin into a frothy texture, which exposed or unwound the cocoon, and enabled the reeler to seize upon some protruding thread, that he skilfully knotted to those already in process of being reeled; the eldest son helped to feed the fire; the youngest carefully gathered up the shells of those already wound off, and spread them on a mat in the sun to dry; in short, all were busy, and not one particle or shred of the valuable worm's nest was thrown aside as useless. A dozen such families were congregated in a cleanly-swept, open space, opposite the town, and they were all as merry as the birds; singing snatches of ditties; hailing one another with hilarity; pausing a few seconds for rest, or a draught of water, and then at it again with all the zeal and fervour imaginable—the freshly-reeled silk each minute increasing in bulk, and glistening with the polish of a newly-coined sovereign. The modern town of Sour, or Tyre, when closely inspected, presents a very rough and most ordinary appearance, even the minarets of the mosque being simply plastered over, like the rest of the houses, with common lime, which, however, is susceptible of a high polish; hence the glare of the sun's refraction, falling on these lofty pillars, produced a very beautiful effect when viewed by us from some distance out at sea: the

reality, however, was very common-place, the buildings and the houses at Sour being much of the same class as those inferior villages in the plains of Antioch. That Sour occupies a portion of the site of ancient Tyre we have no hesitation in asserting, considering the relative positions of the rocks and the mainland, and the vast extent of ground that Palæ-Tyre was spread over. But this is all the claim that Sour has to our attention: in its modern construction there is not one fragment of the ancient city, nor yet hardly a stone from the ground that covers its site, the houses being built of sunburnt bricks, manufactured on the margin of a swamp, two hours distant from Sour. Tyre has fled for ever, never again to be found.—“Yet shalt thou never be found again.” Sour is a thriving village of about five thousand and a few hundred inhabitants. In common with all the sea-coast of Palestine and Syria, Sour has derived immense advantages from the free introduction of corn into England. No European vessels have as yet loaded there, but numbers of native craft find occupation in carrying the produce to Beyrout, or Caipha, in either of which ports there are seldom less than from ten to a dozen European vessels in the berth for England or Ireland, loading wheat. We have no doubt but that in the course of a few years Sour will afford inducements for European vessels to cast anchor in the comparatively neglected roadstead of Tyre. We were witness to a scene at Tyre, such as one might easily imagine to be a true and faithful picture of a little incident occurring in the life of St. Paul, and which is related as having taken place in this very selfsame Tyre. After having partaken of the hospitalities of Signor Attalla, the British consular agent, as we intended to sleep on shore that night, so soon as the heat permitted, we went forth in search of food for the mind, and in this aim were amply satisfied; passing by where the silk-reelers had been occupied all day, we observed an unusual commotion amongst the villagers, all of whom had finished work for the day, and were now congregating round one of the houses, from which the voice of wailing proceeding led us to imagine that some member of the family had died, or was in the act of expiring. Recognising amongst the group our Arab captain, we beckoned him to our aid, and he soon enlightened us as to the real cause of sorrow. A young man, who had bound himself by a vow, was now about to discharge that vow by proceeding on a pilgrimage to Jerusalem. Though the distance was small, his parents would be inconsolable during his absence. Presently the young man emerged from his cottage, followed by the tottering steps of his very, very old-looking father, attended by half the Christians in the place. We followed them down to the sea-side, and arriving there, found a boat on the point of sailing for Joppa. The young man embraced his connexions and friends all round, and then, throwing himself on his knees on the sand, seemed for a few minutes lost in deep devotion. All the male part of the audience were audibly praying with him, while the females could hardly stifle their emotions. A few minutes, and the prayer was ended. The young man sprang gaily to his feet, and jumped into the boat, which immediately hoisted her little sails, and quickly disappeared behind a ledge of rocks. The male spectators shouted after him a blessing; the females raised a loud wail of sorrow, and threw handfuls of sea-sand over their heads: the boat disappeared, and the multitude dispersed. The youth was the only son of the Kekia, or Christian chief, and had much endeared himself to the villagers. But this was no extraordinary case. If any of the villagers quitted their native village, though only for a week, on departing and on arriving the whole village

went forth to accompany them from or back to their homes. After we had witnessed this spectacle we sat down on a pleasant shady part of the beach, and pulling out our little pocket Testament, read :—" Now when we had discovered Cyprus we left it on the left hand, and sailed into Syria, and landed at Tyre ; for there the ship was to unlade her burden. . . . And when we had accomplished those days we departed and went our way, and they all brought us on our way with wives and children, till we were out of the city : and we kneeled down on the shore and prayed. And when we had taken our leave one of another we took ship ; and they returned home again." (Acts xxi. 3—6.) This was in the year of our Lord 60 ; what we witnessed was in September 1850. Seventeen hundred and ninety years had intervened, and yet it was difficult to draw a hair of distinction between what happened in the days of St. Paul, and what we had witnessed with our own eyes.

BELL ROCK LIGHTHOUSE.—No. II.

DURING the winter months, and while the operations could not be carried on at the Bell Rock, the whole of the workmen were employed in the work-yard, where the stones were all prepared, and laid course by course upon a stone platform or basement, equal to the foundation course of the lighthouse. These stones were fitted into their places and carefully numbered, and marked as they were to lie in the building ; an operation which was indispensably necessary, the several courses being dovetailed and connected together so as to form one mass, from the centre to the circumference of the building. The stones were also bored, or fixed with trenails of oak wood and joggles of stone, similar to those in the Eddystone Lighthouse, and in this prepared state were laid aside and in readiness for being shipped in lighters for the Bell Rock.

The operation of the second season commenced at the rock as early as the weather would permit. The work consisted chiefly in laying tracks of cast-iron railways from the several landing-places to the site of the lighthouse for the conveyance of materials to the building. These preparations, together with the fixing of cranes and other apparatus, having been got in readiness, and the foundation pit of the lighthouse, &c., excavated in some places to the depth of five feet in the rock, the first stone was laid upon Sunday, the 10th of July 1808. In the course of this current season four courses were laid ; the first consisting of detached stones for bringing the foundation to a uniform level, besides three entire courses, which brought the building to the height of five feet six inches above the lowest part of the foundation. The works went forward with much facility, for the barrack having withstood the storms of the former winter, gave such confidence to the landing operations at the rock, that there was no hesitation on the part of the workmen as to the practicability of landing at any time, if the boats could be got out of the tender in safety ; but the vessels often rolled so heavily, that in hoisting them out great risk was run of their being staved or damaged. A new vessel, called the *Sir Joseph Banks*, was also provided as a tender for lodging the workmen off the rock, instead of in the *Pharos*. This vessel had the great advantage of being easily cast loose from the moorings when necessary, and brought to the lee-side of the rock, which, as the *Pharos* was a guide to shipping, could not be done with that vessel.

The works of 1809, or the third season, were begun in the spring of that year, by laying down mooring chains with floating buoys for mooring the boats employed in landing the stones upon the rock. After considerable labour the lighthouse was got to the height of thirty feet early in September; and this being the solid part of the building, Mr. Stevenson left it with more confidence to the influence of the coming winter, than if any portion of the hollow work had been commenced. From its similarity in position to the Eddystone, Mr. Stevenson found great help in his proposed edifice from the experience of the late Mr. Smeaton, and his account of the erection of the Eddystone Lighthouse became a kind of text-book of which he gladly availed himself. He adopted the same mortar as that employed by this eminent man, having on a visit to the Eddystone, forty-two years after its erection, found that the original pointings of the joints had never required repair.

A cargo of limestone was consequently brought from Aberthaw, in Wales, where it is found in great abundance on the sea-shore: the softer parts of the high cliffs being undermined by the sea, the upper parts fall in great quantities, and when a vessel is to load limestone, it is grounded on the beach, and loaded as the tide recedes, which, carrying away with it all the earthy matter, leaves the limestone in round lumps on the beach.

Pozzolano, the second ingredient in the mortar, is a kind of earthy lava, very abundant on the coast of Italy and shores of Sicily; it was generally brought to this country as ballast, but during the progress of the Bell Rock Lighthouse, from the long-continued and almost universal restrictions upon British trade with the Continent, Mr. Stevenson could only procure it with great risk and expense; and the Dutch ports being open at the time, he substituted a similar kind of earth, called "Trass," which had been successfully employed by the Dutch in building their dikes. He was also compelled, like Mr. Smeaton, to have recourse to a protection medal to preserve his men from the impress service. Great anxiety was felt at an early period of the next season to get the masonry of the lighthouse completed, and the light-room fitted up in good weather. On the landing on March the 11th, the winter was found to have left its traces, for it appeared from certain marks on the barracks, at the height of about five feet from the rock, that two large drift-stones, weighing each half a ton, had actually been lifted by the sea and dashed against the building. The lighthouse, as far as the daily reach of the tide, was now covered with a strong growth of sea-weed, which growing in extensive beds upon the Bell Rock, greatly lessen the force of the waves which roll over it. "It often happens," says Mr. Stevenson, "when heavy seas were rolling, and at a distance threatening to overrun the whole, that, upon reaching these beds of fuci, with which the flat and level parts of the rock were thickly coated, the velocity and force of the waves were immediately checked, and in a great measure destroyed."

Before the construction of the lighthouse, the Bell Rock was much frequented by herds of seals, who chose it for a resting-place during low water. As many as fifty or sixty of these harmless creatures had been seen at one time on the rock, and during the erection of the building they would sometimes approach the detached parts of the rock, as if watching the workmen, thus busy on this their late exclusive territory.

The first employment of the men was to scrape off the growth of sea-weed which had rendered walking on the top of their work somewhat difficult; but they were indebted to this covering of nature for enabling the

engineer to regulate the proper position of the entrance door, as the growth of the sea-weed indicated the directions taken by the heaviest seas. The workmen took possession very gladly of this barrack, all being thankful to get rid, not only of the trouble of boating to and fro, but of the sickly motion of the tender. The barrack was connected with the rock by a bridge of timber, and Mr. Stevenson gives an interesting account of the cabin in the barrack, in which he passed many weeks, "not in the gratification of all he wished, but in finding what he could do without." This little cell measured not more than four feet three inches in breadth on the floor, and although, from the oblique direction of the beams, it widened towards the top, yet it did not permit him to fully extend his arms, while its length was but just sufficient for the suspension of his cot during the night, which, during the day, was tied up to the roof. His folding table was attached with hinges immediately under the small window of his apartment, and his books and apparatus, with two to three camp stools, formed the only furniture. Yet, this little cabin looked neat and comfortable, the walls being covered with green cloth, formed into pannels with red tape. Here when the works were nearly completed, he had the pleasure of receiving a visit from Mrs. Dickson, the daughter of Mr. Smeaton, who took great interest in the lighthouse, tending as it did to revive the memory of her beloved parent. The masonry of the solid part had been the employment of three years, but the work now went on with more expedition, and by the month of October it had reached its full height of one hundred feet. In December the light was advertised to the public for exhibition on the 1st of February 1811.

The lighthouse is a circular building, measuring forty-two feet in diameter at the base, and thirteen at the top; including the light-room, it is one hundred and fifteen feet high. The ascent from the rock to the top of the solid, or lowest thirty feet, is by means of a kind of trap ladder, which is more easily ascended by the light-keepers than by strangers, who are generally hoisted up to the entrance door in a chair by a moveable crane of a singular construction, projecting from the building. The ascent from the level of the entrance door to the first apartment, containing the water, fuel, &c., is by means of a circular stair; the other apartments are reached by wooden steps. The three lower apartments have two windows each, the upper ones four. All have double sash-frames glazed with plate-glass, besides a storm-shutter of timber for the defence of the glass against the sprays of the sea; for although the light-room is eighty-eight feet above the medium level of the tide, and is defended by a projecting cornice or balcony, with a cast-iron rail formed like the meshes in network, yet the sprays of the sea occasionally lash or fall upon the glass of the light-room, so that it becomes necessary, in gales of wind, to shut the whole of the dead lights to windward. The light-room is of an octagonal figure, measuring twelve feet across and fifteen feet in height. It is framed of cast-iron, and glazed with polished plate-glass, each plate measuring two feet six inches by two feet three inches, and is about one-fourth of an inch in thickness. It was framed and prepared at Edinburgh, is covered with a domed roof, and terminates with a circular ball. It is also furnished with a lightning-conductor.

The light of the Bell Rock is from oil, with argand burners, placed in the focus of silver-plated reflectors, measuring twenty-four inches each over the lips, and is so powerful as to be seen and readily distinguished when the atmosphere is clear at the distance of six to seven leagues, differing

from all others on the coast by showing a red and white light alternately, with a dark interval between each. This is effected by means of a train of machinery, which is also employed in causing two large bells to toll night and day during the prevalence of foggy weather. As these bells weigh upwards of twelve cwt. each, they are heard at such a distance as to afford full warning to the mariner when the light and lighthouse may be wholly obscured.

At Arbroath, eleven miles from the rock, buildings are erected for the accommodation of the families of the light-keepers, each having an enclosed piece of garden-ground. Here, connected with them, is a signal-tower fifty feet high, the top of which is formed with an observatory-room, and serves to carry on and arrange signals with the lighthouse. Including these buildings, the attending vessel, and the first year's stores, the Bell Rock Lighthouse is said to have cost about 60,331*l*. A very large sum to be devoted even to so praiseworthy a purpose, when we consider the long and expensive war in which the country was then engaged; and, certainly, it may be considered not only as one of the most important undertakings of the reign in which it was erected, but one which has gained for its architect the honour he so well merited. The complete success of this skilful undertaking was well tested in the storm of 1823, the second one which had occurred since the lighthouse had been built. The *Pharos*, in the course of her attendance to the rock, was driven first into the Frith of Tay and afterwards into the Forth, where she was compelled to anchor about seventy miles from her station; and in the course of the winter, it was fully two months before she could effect a landing at the Bell Rock. The only accident, however, which happened at the lighthouse was the breaking of the ratchet-wheel spring, which keeps the reflector-frame in motion while the machinery is winding up. Though only of a trivial nature, and unconnected with the stormy effects of the sea, it nevertheless created considerable alarm among the families of the light-keepers ashore, as the signal-ball was very properly kept down on the occasion. Their anxiety, however, was relieved in the course of the day, by the arrival of a carrier pigeon, with a billet from the principal light-keeper, intimating what had happened. A pair of these curious birds were originally presented to the establishment by Captain S. Brown. They have now multiplied considerably, and two or more are generally conveyed to the rock at every trip of the tender, and let off occasionally for amusement; and their flight between the lighthouse and the signal-tower of Arbroath (upwards of eleven miles) has been ascertained to have been at the rate of a mile a minute.—M. J.

A VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—No. XIII.

THE GOLD REGIONS—THEIR DISCOVERY AND RICHNESS—STATE OF SOCIETY PRODUCED—THE "YIELD" FROM THE MINES—PROBABLE POLITICAL AND SOCIAL EFFECTS OF THE DISCOVERY.

WE have from time to time, in those articles which relate to the separate colonies, mentioned the general mineralogical features of each, but the subject of gold—"yellow, precious, glittering gold"—we mentioned as being reserved for special consideration.

The discovery of the prolific richness of the Australian gold fields has, in the course of a short twelve months, produced a complete revolution in the feelings of the public with regard to these colonies and their affairs and fortunes. It was not enough that they possessed enormous tracts of fertile

land where, the seed being planted, magnificent crops sprang up to gladden the heart of the husbandman, almost without his care; it was not enough that immeasurable plains afforded rich pasturage for myriads of sheep and cattle which seemed to cry, from the boiling-vats in which they were being wasted by millions, for mouths to come over and eat them; it was not enough that the useful metals were found cropping out from the surface and requiring only to be gathered up; it was not enough that while in the home country squalidness and poverty were the lot of the many, and even persevering ability could not insure a sufficiency of food, and while gaols for crime and gaols for misfortune were both filled to overflowing, a teeming and beautiful land was on the other side holding out its magnificent bribes to tempt the unfortunates at home to cross the watery bridge which separated them from happiness and plenty—all appeared to be indifferent to the “voice of the charmer.” Once in about twelve months an article would appear recommending a little emigration as a palliative for some portion of that misery which the legislature could not alleviate or prevent, and a ship or two would be put on now and then, lazily waiting week after week for its complement of passengers; but there was no vivid general recognition of the advantages presented by such magnificent possessions, nor any general willingness or inclination to pay the necessary “toll” over the bridge which led to them.

But a land where *gold* is to be had for the picking up, has roused alike the attention of the press and the legislature, the avarice of the capitalist, the enterprise of the merchant, and the anxious desire of all who are suffering here from lack of a sufficiency. The Gold Regions of Australia are the universal theme of contemplation and discussion. Ships for the diggings, good, bad, or indifferent, fill as fast as the brokers can engage them. Steamers of the greatest magnitude are adding their powerful and rapid assistance to the means of transit, and even “return tickets” are advertised for conveying the curious traveller to the Antipodes and back in the course of a few months’ pleasant trip. Books, lectures, and panoramic exhibitions, to inform the public as to the features of the golden land, are “plentiful as blackberries.” Advertisements by the page inform the emigrant where he can best procure every possible thing he may require, from a nail to a steam quartz-crushing machine, and the whole country is in a state of feverish excitement.

The actual discovery of gold in Australia, however, can scarcely be said to be a recent one. In December 1829, it is mentioned in a Sydney paper, that a piece of gold in the quartz matrix had been bought by Mr. Cohen, a silversmith, from a labouring man, whose surprise is described as great on his receiving its proper value in money. For several years afterwards, a shepherd named M’Gregor, perhaps the same individual, was in the habit of occasionally bringing pieces of gold to Sydney, by the sale of which he is said not merely to have supplied his immediate wants, but to have realized at one time a considerable property. He repeatedly offered to reveal the fortunate locality (which was supposed to lie in the Wellington district) to respectable persons, for the consideration of a large reward; but his honesty seems to have been questioned, as his conditions were never acceded to. Whether his supply had failed him or not, is doubtful, but he certainly was, at the time of the late discoveries, in gaol for debt.

The Rev. W. B. Clarke, of St. Leonard’s parish, whose ability as a geologist, as well as in other departments of science, is well known and acknowledged in New South Wales, brought specimens of the metal in

1841 from the basin of the very river (the Macquarie) now supplying it, and he has also repeatedly announced his conviction that gold existed in considerable abundance in the "schists and quartzites" of the mountain chain. In consequence of communications made by him to the Geological Society, Sir Roderick Murchison, in a letter addressed to Sir Charles Lemon, advised that a person well acquainted with the washing of mineral sands be sent to Australia, speculating on the probability of auriferous alluvia being abundant, and suggested "that such would be found at the base of the western flanks of the dividing ranges."

The following passage from the *Quarterly Review* of September 1850 will show the opinion these gentlemen had formed, at that time, of the probable capabilities of the country:—

"The important point for Englishmen now to consider, is, the extent to which our own great Australian colonies are likely to become gold-bearing regions. The works of Count Strezlecki, and others, having made known the facts, that the chief or eastern ridge of that continent consists of palæozoic rocks, cut through by syenites, granites, and porphyries, and that quartzose rocks occasionally prevail in this long meridian chain, Sir Roderick Murchison announced, first to the Geographical Society and afterwards to the Geological Society of Cornwall, his belief that wherever such contrasts occurred, gold might be expected to be found; Colonel Helmersen suggested the same idea at St. Petersburg. Very shortly afterwards, not only were several specimens of gold in fragments of quartz veins found in the Blue Mountains, north of Sydney, but one of the British Chaplains, himself a good geologist, in writing more recently, thus expresses himself:—'This colony is becoming a mining country, as well as South Australia. Copper, lead, and gold, are in considerable abundance in the schists and quartzites of the Cordillera (Blue Mountains, &c.). Vast numbers of the population are going to California, but some day, I think, we shall have to recall them.'

Mr. Montgomery Martin, in a pamphlet, published in 1847, says:—"Sir Thomas Mitchell, in his recent expedition to the north-east, found a region like the Uralian Mountains, abounding in gold. The specimens I have seen of the gold are very rich. It is in large grains, or irregular veins, loosely embedded in white quartz."

About the beginning of 1849, a very fine specimen of gold in quartz was brought to Melbourne, Port Phillip, where, in March of that year, it was shown by Mr. La Trobe, the Superintendent to Sir Charles Fitzroy, the Governor of New South Wales. This specimen was said to have been found by a shepherd in the "Pyrenees," a day or two's journey from the town, and mysterious stories were current as to his disappearance, it being supposed that he had been induced to leave the colony by some person who had bought the secret. The general feeling, however, on the subject was one of incredulity; and many who were supposed to have some knowledge of mineralogy, declared their belief that the specimen in question was an artful fabrication.

Speculations were often hazarded among persons interested in the subject, as to the probability of the colony becoming a gold-producing country, and even confident assertions made, that if washing the alluvial deposits in the streams or gullies flowing from the supposed auriferous ridges were practised, gold, in dust, would certainly be procured. Strange to say, however, so simple an experiment was never tried by those most concerned, in spite of Californian experience; and, consequently, in society generally, the

majority of persons, slow to believe in the possibility of a change so important, whenever the subject of gold-mining was mentioned, spoke of it with a sneer, as a kind of absurd speculation.

On the 2nd of May 1851, a notice appeared in the *Sydney Morning Herald* (the leading paper of the colony), intimating that it was no longer a secret that gold had been found in the earth, in several places in the western country, and that the fact was first established on the 12th of February, by Mr. E. H. Hargraves, a resident of Brisbane Water, who had returned from California a few months previously. It was added, that while in California, Mr. Hargraves felt persuaded that, from the similarity of the geological formation, there must be gold in several districts of New South Wales, and when he returned his expectations were fulfilled.

On the 8th May, Mr. Hargraves delivered a lecture in Bathurst, when he publicly announced his discoveries, stating, that after a careful examination of from two to three months, he had found that one large gold-field existed from the foot of the "Big Hill" to a considerable distance below Wellington; that the precious metal had been picked up in numberless places, and that indications of its existence were to be seen in every direction. So satisfied was he on the point, that he had established a company of nine working miners, who were then actively employed digging at a point of the Summer Hill Creek, near its junction with the Macquarie, about fifty miles from Bathurst, and thirty from Guyong, and that the name of "Ophir" had been given to the spot.

Mr. Hargraves exhibited to the people present samples of gold weighing, in all, about four ounces, the produce, he stated, of three days' work. The amount thus earned by each man he represented to be 2*l.* 4*s.* 8*d.* per day; but he observed, that from want of practical knowledge and proper implements, he was convinced that nearly one-half of the gold actually dug had been lost, owing to the labour having been performed in his absence. From the nature of some of the country explored by him, he was of opinion that gold would be found in mass, and would not be surprised if pieces of thirty or forty pounds should be discovered.

The fact of the existence of gold in the Summer Hill Creek having been thus made known to the public, digging immediately commenced. On the 10th of May, two days after Mr. Hargrave's meeting, three persons left Bathurst, and on the 12th two of them returned, bringing one piece of gold, which weighed down thirty-five sovereigns; another of about half an ounce in weight; and several small pieces, which might weigh half an ounce altogether. The largest piece was described to be of almost solid gold, about three inches long, and of varying thickness, with a small portion of quartz embedded in its thickest part, and the smallest as like spangles, but rough and uneven on the edges. On the following day two pounds and a half of gold, in lumps, besides a quantity of dust, were brought into Bathurst, which, of course, induced the formation of parties for mining, and the construction of machines, &c., for washing the soil.

On the 16th of May the arrival in Sydney of the specimens mentioned above caused a great sensation; and on the 17th the report of Mr. Stutchbury, the Government geologist, reached the Government. This report was so conclusive as to the existence of gold in large quantities that a proclamation, which had been prepared for some time, was immediately issued, declaring the right of the Crown in all precious metals, and prohibiting all persons from searching for, or carrying off, the same, except under regulations which were shortly to be promulgated. These, which

were framed in some degree on the Californian model, were published a day or two afterwards, and insisted principally on a charge, or licence-fee, of thirty shillings—which was to be paid by every individual applying for permission to search for the precious metals—for every calendar month, or part of a month, to a land commissioner, appointed to receive it, who was also to have power of allotting small portions of Crown land to each worker, and of settling disputes as to conflicting claims, &c. On private lands no persons but the proprietors, or such as they might authorize, were to be allowed to work, but all were to provide themselves with licences.



SUMMER HILL CREEK.

The excitement in Sydney was kept up by occasional accounts of great success on the part of individuals. On the 24th of May very favourable intelligence was received from the gold-diggers, many of whom wrote to their friends that they were making 3*l.* or 4*l.* a-day. One party of four was said to have taken out thirty ounces in one day, and a piece of ore pound weight had been found. A letter, said to be from a person of undoubted veracity, stated that one man had, within three weeks, accumulated 1,600*l.* worth of gold! It was also stated that, whatever might be the desponding accounts of some disappointed adventurers, the fact was certain, that a large quantity of gold was lying in the bank at Bathurst, waiting a safe conveyance to Sydney, and that the whole of Mr. Wentworth's property near Bathurst (Fitzgerald's Valley) was found to be one large gold-field.

CEREMONIES are in themselves very silly things, yet a man of the world should know them. They are the outworks of manners and decency, which would be too often broken in upon, if it were not for that defence, which keeps the enemy at a proper distance.—CHESTERFIELD.

ASCENT OF MONT BLANC.



MONT BLANC.

A SHORT account of the latest ascent of Mont Blanc* may be interesting to some of our readers :—

When I arrived at Lucerne I had little notion of making the attempt ; but here I heard such glowing accounts of the scenery from the summit that I determined to undertake an expedition to the top, full of the idea that if I could reach it in tolerably good condition, I might, being something of a draftsman, make sketches enough to give some idea of the nature of the view, which, from such an elevation, could have no parallel in Europe. I fully tested my powers of endurance in a walk from Lucerne to this village, including some of the finest scenery, and, also, the hardest walking, in Switzerland. I remained at Chamounix for some days, looking out for propitious weather. It is necessary to wait at least two days of fine weather before setting out, to allow the snow to condense and afford firm footing. While at Chamounix I found an Englishman, who declared himself able and willing to share the fatigue and excitement of the undertaking. Accordingly, Mr. Alfred Goodall, of the Engineers, and myself, set forth from Chamounix at half-past seven last Monday morning. The chief guide (elected every season by the company of guides) selects the proper guides for the expedition. Each traveller is compelled to take at least four guides, and as many more as he chooses. The pay of each guide is 100*fr.*, and the traveller furnishes all provisions. At eleven the whole cavalcade had reached the Pierre de l'Echelle, or land's end of the mountain, and here, on the top of a huge stone, the caravan set to feasting, in all, a party of nineteen, for each guide has his porter and we had a volunteer guide besides. The subject of conversation now became how far the porters were to accompany the guides over the ice ; this point and the meal having been settled, we struck out on the Glacier de Bosson, and having marched through pretty deep snow, the porters, in about an hour, turned back, and the guides took the whole of the burdens, consisting of

* Extracted from a letter addressed to *The Times*.

the remainder of our provisions and some wood for our fire on the Grands Mulets. This wood is picked up on the way through the forest of fir trees. I was apprehensive of some accident to men thus heavily laden, and presently, as we were scaling a most awkward block of ice, down went Favret, load and all, into the crevasse, and but for his long protruding faggots of wood, which stuck on either side of the crevasse, he would have gone to a great depth. He was soon hauled up amid a volley of *sacres*, and apparently greatly pleased with his adventure, he strode on. Devouassond, Cachat, and Frasserand took their turns in clearing the way, and after floundering in deep snow till half-past four we reached the Grands Mulets, consisting of several chaotic pyramids of great size. The ladder we left sticking in the snow below. We immediately set to work drying ourselves and dressing for the grand effort of the night and morrow. Having sent out three guides to explore the track, we began once more to attack the provisions, and when the party returned we all were exceedingly pleasant together, and managed to turn to and sleep for three hours. At eleven we swallowed some tea, and at half-past two lanterns were lighted, and the snow being pretty well frozen during the night we walked more easily, and all tied together about five feet apart, we followed the leader, who, with knitted brow and mighty strides, struck forth into the white gloom. In an hour and a half we came to where the traces of the reconnoitring party ceased, and another half hour brought us to a region of terrible crevasses. We were brought to a halt, and the usual passage was declared impracticable; exploring parties were again detached, and we stood watching Devouassond, Cachat, and Frasserand, as they skirted along the edge of the crevasse to the left, thrusting their staffs into the hollow, and peering on every side with the lantern. They returned without success. (On our return in daylight we saw what a terrible place we were attempting.) Devouassond began to fear that no passage existed; but I told him that to go back was impossible, and so we lay to once more, waiting for the sun to dispel the great darkness. At half-past three Devouassond went away to the right with Frasserand and Mr. Goodall, and the increasing light showed us a narrow bridge at the foot of the Dome de Gouté. We joyfully crept along this slender bridge of ice, and reached the other side. While we waited for the sun the scenes were of ghastly grandeur. Leagues above us the summit and the Dome de Gouté were tipped with the moon, and stood out like comets in the black sky, while behind, on the opposite side of the valley of Chamounix, namely, on the range of Brevent, the whole of Mont Blanc's shadow in the moonlight was reflected. No pictorial effort could convey the solemn majesty of this scene. When the sun began to rise in deep red over the wall of mountains the scene was still more grand; the precipitous cliffs of the Grânt, bearing up the fortresses of ice, cut the golden sky with their black edges; and while on one side scarcely any light appeared in the sky, the other was in hard relief against its brilliancy. The Dome de Gouté, now opposite the sun, was a mass of gorgeous violet colour, which being reflected on the prominences of emerald green ice on the plain before us, gave a variety and peculiarity that if correctly described would sound like a magic illusion—it seemed like walking on a huge prism; and I think that if I had been able to sleep a wink the night before leaving Chamounix, I could not have resisted the temptation of trying to make some representation of the scene on my roll of paper. The snow was still hard, and we walked on over the Petit Plateau in silence, and winding up a

steep ascent came to the Grand Plateau—a vast plain of a semicircular form, the circular side being surrounded by cliffs of ice and snow. The Grand Plateau seemed to me about the length of Eaton-square, but broader. We were there at half-past five, and came to a halt, and pulled out six fowls and three bottles of wine, which was all we took from the Grands Mulets; and after giving vent to our exultation, hitherto suppressed, we set to once more on the eternal fowls and wine. I confess that here I felt a horrible nausea, worse than sea-sickness. As exertion must be maintained I could not eat, though Mr. Goodall declared he could not do otherwise. We all, however, enjoyed the wine, and then joined the brave men of the Mountain in the most noisy, if not quite harmonious, of Marseillaises; threw an empty bottle at a ruined avalanche, and with yellow faces, but cheerful minds, crossed this great expanse of ice, and were told to hurry over the ditch that separated the wall before

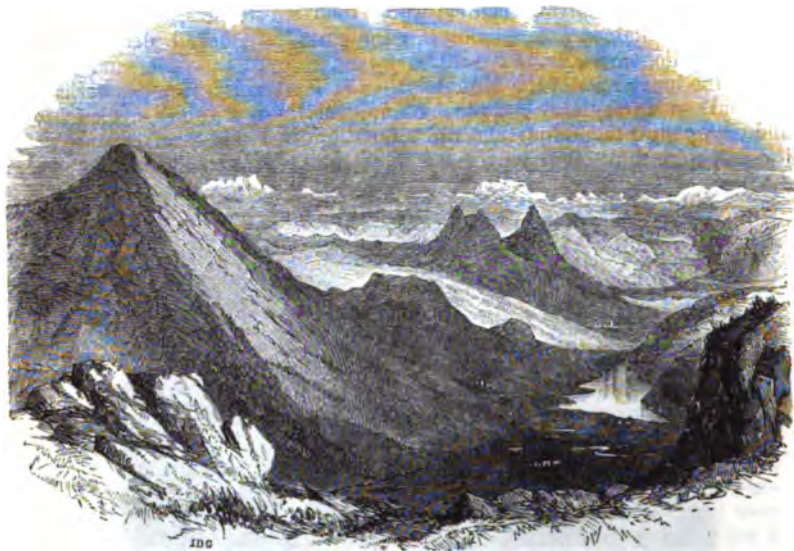


ST. BERNARD.

us, and which we were about to climb. Simon now took the long poleaxe, with a hatchet on one side and a bent spike on the other, and began smashing the ice quickly and cleverly. Though but a flimsy staircase, we went all the faster, being as good on our feet as any of the guides. This was a hard pull; and, after some hard work in the ravines, we came out on La Vallée, the largest field we had seen, wider than the length of the Plateau, and stretching in an inclination above us like the horizon of the ocean. We were now to look out for the mountains of the opposite side of Mont Blanc—namely, the Great St. Bernard and the Bernese Alps; they were long in appearing; at last, like land at sea, they showed above this wearisome Vallée. To the left of our line was the Géant and the Mont Maudit, which formed one horn, while the terrible Mur de la Côte formed the other horn, to the right of the crescent, in which we stood, as regards our right and left, though it formed a dome as regards our line of march.

Here the air was very scanty, and the nodding endemic became very strong; superfluous clothing was now thrown aside, and we began to climb

the Côte in a straight line over its centre, on an angle of forty degrees at the least. The Côte was mostly snow, and we at last crawled to its summit, when behold before us the last and highest dome of the mountain appeared. I looked nowhere, except at the way I was to go, and went over the last valley behind old Tournier, who was first. I cast myself loose from the rest, and with our last strength we attacked our last difficulty. This dome, indeed, looked like Mont Blanc in itself, but its



VIEW FROM THE RHIGL.

symmetrical form—a perfect pyramid, I should think about as high as St. Paul's—was assurance that here was the Monarch's Crown indeed. A small rock protruded from the middle of the ascent, and thither I told Tournier to cut the steps. The inclination was steep, but here the footing was of the firmest and clearest ice. Another half-hour we were told would bring us to the top. I tightened my rope, and told Tournier he should have five francs to let me pull myself after him. I did so for a few minutes, while he hewed the steps in the ice, which sometimes came out in one block, and went rattling down the dome with a noise like a loose tile from the top of a house roof. I and Tournier were some yards before the others, when Frasserand, seeing the desperate work of Tournier, wanted to go before and take his turn at the axe, but Tournier said doggedly, "*C'est impossible*," and on we went. At length we lay down on the ice, declaring we would sleep ten minutes; but Tournier would not listen to this. He said, "Three minutes more, and we are on the summit." I got up, and am glad to recollect that I pulled old Tournier after me this time, and, sure enough, the top was reached. I was astonished at the rate at which Mr. Goodall and Frasserand came after us. Throughout the ascent we neither of us required the slightest help, except where we crossed over obstructions, and when the awful words, "*Place! Place!*" were given we were on foot in a moment; for on the Vallée and the Côte we were obliged to drop down occasionally, and felt wofully inclined to sleep

Mr. Goodall called for fowl on reaching the summit, and did not appear to suffer throughout the whole ascent. I had felt nothing since the Grand Plateau, and now I began to look abroad.

The summit extends about seventy yards, running east and west, the west end being some five yards higher than the east. The width is about twenty or thirty yards, and the surface was of heavy snow, ankle deep. The reflection made the heat intense, while on the last ascent the wind was bitterly cold as it came round the icy dome.

We reached the summit at eleven o'clock, and a flag was erected. All Chamounix was in a state of triumph, and it is said that cannons were going off. After a general survey I sat down, and we pulled out the champagne and swallowed it, saying something about the Queen.

I turned to my roll of paper, and made Devouassond hold it up. I looked at the paper, then at the astonishing landscape. Fearful to lose time in drawing, I took a few of the prominent lines where the view was clear of clouds, but we were obliged to commence our descent in two hours for fear of being benighted.

I was as strongly impressed with the view as if I had been looking at it for the whole day. The Bernese Oberland appeared like a mass of mountains packed in clouds; their peaks rose from the clouds, which seemed to fill the villages. Monte Rosa and the Wetter Horn appeared beyond, and on that side no real horizon appeared. To the south the Genoese mountains, and over them a long, purple mist, whether the Mediterranean or not, was uncertain. Towards Lyons the clouds were low, and nothing was seen but the line of Jura stretched far, and beyond it the Côte d'Or. Not a vapour obstructed the glare of the sun above us. We were looking as it were at many contemporaneous days. Our own day was fine; that at Lyons appeared otherwise, as also those in the valleys of the Oberland. Beyond Mount Jura the horizon appeared like a sea of faint blue. The Lake of Geneva was distinctly seen by some, but I did not distinguish it. So extraordinary a scene exceeded my expectations, and the time we were on the summit seemed but a few minutes. I took another sketch at the foot of the Côte, and another at our next resting-place, and one the previous evening at the Grande Mulets—in all four; and with them I hope to convey some idea of the wonderful view, to recall to my mind a scene which is rarely enjoyed twice. We commenced our descent at one, and reached Chamounix at twelve Tuesday night, having walked within the time we left about thirty-five leagues.

I remain, Sir, your very obedient servant,
Chamounix, July 7, 1852.

J. D. H. BROWNE.

OUT OF ONE'S TIME.—No. II.

"MITCHELL married almost directly, from, as he told me, economical motives. 'A wife,' said he, 'is indispensable to a man situated as I am. I may have a very good housekeeper, but her interest and mine are not one; she may conduct herself with much propriety, but she can never have the influence over others or over myself that a wife would; she may make me very comfortable, but she will never make me happy; make toil sweet by sharing my labours, or quicken my exertions by new objects to engage them; respect for myself may keep me correct in my conduct towards her, but she will be no guide or stay to me in the path most essential of all others—the path that leads to a higher and a better world than this, nor I to her.'"

"He spoke like a man of sense," said Walter, availing himself of the pause made by Mr. Mathews. "That's exactly what I—" he checked the words he was going to utter.

"Just as you would have said," cried Tom. "I believe it: but let's hear whether he was as wise in his conduct as in his words."

"The wife he chose," continued Mr. Mathews, "was every way worthy of him, and was as assiduous, as civil, and as prudent as himself. The business to begin with was not large, but it was very fair, and gave promise of becoming more extensive. Pleasure might invite them, friends might sue for their company, neither he nor his wife were to be found absent from home, at least together. Every year witnessed the birth of a child, and though I knew by the larger amount of the orders I received that things were going on in a prosperous way, the only difference I perceived in their way of living or general appearance was a table plainer if possible than before, though more substantial, and a still more simple and inexpensive style of dress in the wife. There was not a house that I better liked to be invited to than theirs. All was cheerful, well-conducted, and quiet. The children were tractable, the apprentices, for he had soon two, were respectful, and the servant that I was in the habit of seeing—she might be the only one they kept for what I knew—in dress and manner corresponded with her master and mistress."

"I suppose she wore no flowers in her bonnet then," said Tom, "nor her ringlets, nor—"

"I never saw her in her bonnet," replied Mr. Mathews, "that I am aware of, but I make no doubt that she wore neither; and very properly, for neither flowers, nor ringlets, nor any marked style of dressing the hair, becomes a servant."

"Now that's being too particular," said a young man near him, "I could say, it is illiberal; servant girls like to appear smart, as well as their superiors, and may, for what I see, full as innocently."

"That they may like it, I will not dispute," returned Mr. Mathews, "but that they may gratify their liking as innocently, or even innocently at all, I very much question; a desire to appear smart, which is a love of dress, is dangerous in any female, let her rank be what it may, but especially to one in an inferior station."

"But where's the harm of it?" asked the other.

"Consider its motive, look to the end," rejoined Mr. Mathews; "a wish to attract notice, which aim attained, is too often the seal of her destruction. The vanity that gives birth to the desire is itself fed by every gratification of its offspring, till integrity, principle, and womanly modesty are lost. Let a female be clean, and neat, and becomingly dressed, and she is to be commended; if she goes beyond this, she does it at the hazard of all that ought to be dear to her, or respected by us."

"Order, order," said Tom, "no deviation from the story."

Mr. Mathews resumed. "So well arranged was everything in Mitchell's family that, as I was saying, it was always a pleasure to me to be admitted into it. If I was fatigued, their cheerfulness refreshed me; if I felt a little out of sorts, or oppressed in spirits, their quiet, solid happiness at once calmed and enlivened me; and I never left them without an increased feeling of good-will to my fellow-beings generally, and of conscious good-humour with myself. Certain of an invitation, I always made my arrangements so that I might accept it; go when I might, I never found him from his post. If change of scene had been really necessary to health, Mitchell might have

been the most sickly man in the world, for a journey to London twice a year on business was about the only variety his monotonous life could boast of, and, as he told me, he had as little inclination as leisure for any other."

Mr. Mathews made a pause.

"We are come to the end of the first part of the tune, I suppose," said Tom. "We will fill up our glasses, gentlemen, if you please, and so prepare for the second."

This was done, the candles were snuffed, silence was restored, Mr. Mathews cleared his voice and began:—

"In the meantime, Atkinson had pursued a very different course. His business was very flourishing, and he himself was clever and obliging; he was well spoken of and esteemed throughout his neighbourhood. He married a young and amiable person, with a very nice fortune, and thus he had plenty of money at command. It was about this time that the railway mania was attaining its height. Atkinson speculated to some amount, but with considerable judgment, and he was very fortunate; again and again he ventured his luck, and succeeded at each trial—hundreds became thousands, and he was a rich man. Business was of course relinquished. He bought an estate, in another county, built a house upon it, and commenced gentleman. I had lost sight of him altogether for some time, when accident brought me into his way, a few days since. He had been on a visit to Mitchell, whom, he informed me, he had not before seen from the time he himself had left that part of the country. He was so urgent that I should return with him, that finding I could so arrange it, as not to cause me much delay, I accompanied him to his home.

"I expected to see a pretty place, but it far exceeded the idea I had formed of it. Every comfort, every luxury I might say, were his; wife, children, house, grounds, all were lovely. 'If ever a man is to be envied,' thought I, 'Atkinson is the man.'

"In the evening we took a stroll together. I was full of admiration of all I saw, and expressed my feelings in corresponding terms. He listened to me, as at length I perceived, the more gravely as I became the more animated; I had now exhausted myself, and stood silently looking at the beautiful prospect before me.

"Atkinson now spoke, 'You say I am to be envied,' exclaimed he, 'I know another man who is much more to be envied than myself.'

"'Indeed,' cried I, in a tone of surprise and doubt, 'I should hardly think that possible.'

"'It is nevertheless true,' replied he.

"'Why, what can you have to desire that you have not?' asked I, 'what have you to do but to enjoy the blessings that surround you?'

"'If I had more, or anything to do, less to enjoy,' replied he, 'I should be more truly an object of envy, I should be in reality happier. I have nothing to employ me, nothing to call forth my activity and energy, nothing to wish for, nothing particularly to interest me. I get up in the morning, I go to bed at night, full, every way full of this world's goods. Look where I may, ramble where I choose, everything is beautiful, perfect, and all is my own. If I have a desire to gratify, I have no one's leave to ask. I go where I like, do as I like, my movements are controlled by no will but my own, and yet—' he checked himself.

"'You don't mean to infer that you are not happy?' exclaimed I.

"'My visit to Mitchell,' replied he, 'has shown me what is wanting to

make me happy, and has opened my eyes to the truth. Every moment of his life is usefully employed, and employed as an honourable means to a legitimate end—the well-being of his family, and ease in the decline of life. The restraint that his position in society imposes on him, acts not as a chain to a slave, but as a curb to the impatient courser, not galling, but regulating his ardour and his inclinations; not degrading, but improving both the moral and the social condition of the man. There is a future before his eyes which operates upon him as did the pillar of fire to the Israelites in the wilderness—a light to guide him. He enjoys in reality the enjoyment to which he looks forward, and is the man, every day of his existence, that he labours and hopes to be before his career closes.”

THE FERN TRIBE.—No. II.

IN our former paper we spoke of Ferns as being classed under two heads; the annulatæ, those in which the thecæ are provided with a marginal ring, which operates in the dispersion of the seed, and the exannulatæ, which have no such appendage.

This first class is divided into six families; the second contains but three. Our simplest and best plan will be to follow the order in which Newman, who will act as our chief authority, places them, and examine what are the distinctive differences in structure which mark these various families.

The first in order is the Adiantacæ, which family contains many exotic, but only three British genera; these are named *Adiantum*, *Lomaria*, and *Pteris*. In these islands we have but one species of each of these genera.



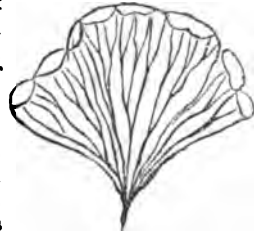
TRUE MAIDEN HAIR.

The rarest and most elegant of our British Ferns, *Adiantum Capillus-Veneris*, or the True Maiden Hair, is of the first-named genus. It is found rather abundantly in the isles of Arran and in some part of Ireland, as also in Glamorgan-shire, and some other places in Wales. In Scotland it is unknown, and in England the localities where it is found are but few, and those entirely

confined to Devon and Cornwall. Near Ilfracombe is its chief Devonshire haunt, although a few plants of it have been found near Brixham, and in other parts of South Devon.

The distinguishing feature of this family, the Adiantacæ, is that the thecæ, or seed-cases, are covered by a portion of the frond, or of its upper skin; sometimes this appears like the inclusium, or membrane which ordinarily covers the thecæ, at others it is evidently a portion of the frond itself. In the first genera (the *Adiantum*) of the family of which we are now speaking, the masses of thecæ are borne in circular masses on a reflexed portion of the edge of the frond; and in this specie (*Adiantum Capillus-Veneris*) they appear like oblong bodies arising from the edge of the leaf. This lovely Fern is always found on moist caves or rocks, near the sea-coast, where it roots firmly into the crevices of the stone, preserving a perpendicular situation. Its roots are wiry, black, and fibrous; the rhizoma is black and scaly. The young leaves appear in May, and are

matured in July. The rachis is naked, shining, and dark, the branches or pinnæ alternate, the leaflets fan-shaped, and each on a distinct stalk. Its veining is very beautiful. The foot-stalk, which is of a rich crimson-brown, divides at the base of the leaflet, and forms a ridge from whence branch off strong but very delicate veins of a whitish green; these veins again subdivide, and fork off into pairs at about the middle of the leaflet, and each vein so formed forks a second time before it reaches the margin of the pinnæ, where the masses of theæ lie, and ornament the leaf with a sort of braided border of exquisite beauty. Though loving moisture, the leaves are always dry, from which circumstance the generic name is derived from a Greek word signifying "dry." "In vain," says Pliny, "you place the *Adiantum* into water, it always remains dry." The leaves of the True Maiden Hair are considered pectoral and lenitive, and in former days were much valued in medicine; they contain a thick astringent mucilage, and from them (though other kinds are occasionally substituted for them) is prepared the beverage called capillaine, a term derived from the specific name of the plant. Gerard tells us that Dioscorides, ascribing many virtues to it, addeth, "It is sown about sheepfolds for the benefit of the sheep, but what that benefit should be he sheweth not; besides that it cannot be sown, it being without seeds, it is evident." It is an old notion of writers of his day that Ferns produced no seed, though Gerard himself seems to have had



HARD FERN.

a strong suspicion that some kinds of Ferns did. This idea of the seed of the Fern being invisible was carried out into the idea that if any such thing

could be procured it would render him who wore it also invisible. Shakspeare makes one of his characters in Henry IV. say, "We have the recipe of fern-seed, we walk invisible;" and Ben Jonson, another old writer, says—"I had no medicine, sir, to go invisible, no fern-seed in my pocket." We have, however, seen that the Fern *does* bear seed in immense quantities, and that the Almighty Creator has amply provided it with means for dispersing the seed as well as of preserving it from injury during its progress to maturity.

We now come to the genus *Lomaria*, of which *Lomaria spicant*, called by some authors *Blechnum boreale*, and in common parlance the "Northern Hard Fern," is the only British species. This is generally distributed throughout these islands, though it is rather arbitrary in choice of situations, preferring moist boggy ground; so that, although in some localities it grows profusely on every bank and wood, in others not a frond can be seen for twenty miles together. The mark which distinguishes *Lomaria* is that the thecæ are continuous, placed in lines on the pinnæ, which they nearly cover, and are covered with a continuous inclusions.

The roots of *L. spicant* are black, tough, and wiry; its rhizoma tufted and hairy. The fronds first appear in May, reach maturity in August and September, and continue perfectly green and vigorous through the winter. The fertile frond is linear, simply pinnatifid, and pointed at the apex; the pinnæ are narrow and linear, and rounded at the apex. The lower half of the rachis is dark purple, shining and naked; the under side of the frond is nearly covered with the masses of dark-brown thecæ, which form a continuous black line on each side of the mid-vein. The barren fronds, which grow on the same root, are less erect, shorter and broader, and the pinnæ closer together. The singular and very beautiful appearance which this Fern presents, from the mixture of leaves so dissimilar on the same plant, and from the grace and vigour with which its noble tufts of vivid green rise from the earth, and cluster in groups among the other Ferns and flowers which adorn the mossy banks and braes in wild districts, attracts much notice and admiration. It grows in great luxuriance in the woods of Holne Chase, on the beautiful banks of the river Dart, which runs through the wilds of Dartmoor, where may be found a greater variety of Ferns than grow in any other part of the southern counties of England. This Northern Hard Fern is, however, not excelled in beauty by any; for though the *Osmunda regalis* may tower grandly above it, and the Shield Ferns spread their broad fronds in unrivalled dignity, yet the grace of the Hard Fern, and the peculiar appearance which its narrow comb-like fronds present, always attracts the eye of the admirer of nature, and compels his attention whatever other beautiful objects may be near it. The third genus of the family *Adiantaceæ* is the *Pteris*, of which the *Brachen* (*Pteris aquilina*) is our own British species. Although there are ninety-four exotics of this genus, this is the commonest of our Ferns, and is found everywhere; but it is one of those truly wild plants that flies before cultivation. Though inveterately pursued and rooted out by the husbandman, it is of great value to the sportsman, as favouring a fine covert for game. Its average height is from two to three feet, though in moist shady woods it grows to double that size. The mark of this group of Ferns is that the thecæ form a continuous marginal line, covered by a continuous marginal inclusions. The roots of *P. aquilina* are brown and fibrous; the rhizoma brown, velvety, and rapidly creeping, and where they grow long together unmolested they penetrate the ground to an immense depth, and fill the soil with a perfect network of rhizomata. The young fronds, which

are very tender, and often cut off by early frosts, come up not like those of most other Ferns, in a circinate form, but bent or doubled back, the leafy part being pressed against the rachis. The part of the rachis which



THE BRAKE.

lies below ground is thicker than that above, and when it is cut through, in either a direct or oblique direction, the bundles of vessels which run through it present a very singular appearance, exhibiting the form of an oak tree, whence it is called "King Charles in the Oak." Linnæus thought this appearance more like that of a spread eagle, for which reason the specific name *Aquilina*. The generic name *Pteris* is given from its plume-like growth, and was that by which the Greeks called Ferns in general. Although the Bracken is so common, I question whether one in ten of my readers has ever examined the back of one of its fronds in the autumn, when its fruit is formed. Whoever has not, let me advise him to go to the nearest copse or hill side, and gather a leaf for that purpose; and having done so, carefully to notice its appearance. He will find that the form of the frond is nearly the shape of an equilateral triangle; the naked part of the rachis being rather more than a third of the entire length of the frond: the pinnæ are what is called pinnate, that is, divided into branches, and these pinnatæ are regularly cleft to their midrib, and thus divided into lobes. It is not uncommon to find fronds in which the lobes of the pinnatæ at the upper part of the frond present a straight edge, whilst those lower on the stem are notched very regularly like the teeth of a saw. I have one of this description now before me, and will take it as my example. Around every part of each lobe runs a delicate border of a velvety appearance, and light-brown hue. It follows the margin of the

leaf most exactly, and is in due proportion to the size of the green leaflet on which it reposes, and consequently rather narrower on the upper than on the lower branches. The lowest pair of pinnatæ, and the pair next above it, are deeply notched; and as the border still continues to follow each part of the edge, it here necessarily assumes the form of a Vandyke. This beautiful border consists entirely of myriads of thecæ or seed vessels, which, if examined under a microscope, are seen to be little globular cases of a crisp and shining material, in each of which is contained a countless multitude of minute grains like a brown powder. These are the organs of reproduction. Lindley well describes this edge as it appears before the fruit discloses itself to view:—"Look attentively at the under side of the leaves; you will remark the margin to be turned in and thickened like the hem of a lady's gown, in which a cord is run; there lurk the thecæ you are in search of. With the point of a knife lift up gently the edge of the leaf, and you will at once discover a ridge of thecæ running all round it. In this instance the margin of the leaf acts the part of the inclusion." This is not only the most abundant but the most useful of our Ferns. It is valuable for thatching, and for litter for horses, packing fruit, &c.; it has also medicinal qualities, and contains so much alkali that its ashes are used in making soap and glass. It has also astringent properties, which render it serviceable in preparing kid or chamois leather. Its harsh texture and astringent taste render it unpalatable to cattle, though the roots are sought by pigs, and have even been ground down and made into bread. Francis tells us that the peasants in most parts of the kingdom use it for fuel, and claim a right to cut it for that and other purposes; but that in Germany it is considered so important to the farmer as fodder for cattle, that it is an article of ready sale there, and the cutting of it restricted by very severe forest laws.

Now let us just look back for a moment, and we shall surely be struck with admiration, not only at the skill of the "Great Workmaster," as exhibited in the graceful forms and vivid tints which he has bestowed on these denizens of the rocks and hills, and the microscopic beauties and wonders which are discoverable in their delicate veining and minute organs of reproduction, but also of His loving kindness in connecting so much that is useful to man, with so much of beauty. Of the three species of Fern which we have been considering, we find two—the Maiden Hair and the Bracken—to be possessed of medical properties, and the former used to make a delicate beverage. The latter, which is so abundant and general in its growth, is of use for household and agricultural purposes, for tanning, for making glass and soap, and even in times of emergency for the food of man. Let us not then turn aside from the contemplation of any of God's works with a doubt whether they are worth studying, for we may be sure that—

"One Spirit—His

Who wore the plaited thorns with bleeding brow—
Rules universal nature. Not a flower
But shows some touch in freckle, streak, or stain,
Of his unrivalled pencil.
Happy who walks with Him, who, what he finds
Of flavour or of scent in fruit or flower,
Or what he views of beautiful or grand
In nature, from the broad majestic oak
To the green blade that twinkles in the sun,
Prompts with remembrance of a present God."

THE
HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION

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LEAMINGTON.



“ These are thy walks, oh ! sacred health,
The monarch's bliss, the beggar's wealth ! ”

LEAMINGTON, the Spa of Warwickshire, is distant from the town of Warwick two miles, from Coventry eight, and from Birmingham twenty-two ; and its importance as a watering-place may be inferred, from the extreme rapidity with which it has risen from obscurity to become a town of some considerable magnitude—a fact which, with a due degree of justice, has been attributed to the number, variety, and abundance of its mineral streams.

VOL. II.

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Having eleven different wells, and uniting, in a single spot, waters similar to those of Harrogate, Cheltenham, and Tunbridge, the invalid is neither necessitated to wander about from place to place, seeking that which is most applicable to his peculiar complaint, nor compelled to add foreign ingredients to increase its medicinal powers. The springs to which Leamington thus owes its fame were known as early as the sixteenth century, and are mentioned as a curiosity by Camden; while Fuller, in the succeeding century, speaks of "the twin springs, as being as different in taste and operation as Esau and Jacob, the one being salt, the other fresh." Dugdale remarks, "that in his time the hamlet possessed a salt spring;" and Dr. Thomas, in his additions to the latter writer, observes "that the inhabitants used it in salting their meat and in making their bread."

Other springs have been since discovered, and in the year 1797, Dr. Lambe chemically analysed the waters, and found that they contained medicinal properties, of the most varied and valuable description. An account of his discovery was inserted in the Manchester Memoirs, and the notice of the public was immediately attracted. Several medical persons of high reputation corroborated the statement of Dr. Lambe; and the diseased and the fashionable soon hastened to the spot of promise in pursuit of health and amusement.

Benevolent institutions now abound in the town; but shortly after the fame of the waters was fully established, the physicians met with a coadjutor in humble life, whose industry and merits deserve to be recorded. This was Benjamin Satchwell, a hard-working tradesman of the then obscure village, who successfully exerted himself in the institution of a charity for the gratuitous relief of distressed invalids, to whom the use of the waters might be recommended.

The springs all lie within the range of a musket-shot from the bridge over the river Leam, from which the town takes its name. The old well, or No. 1, the father of them all, whose origin is shrouded in antiquity, is in front of an old church, near the river in Bath-street, and has two spouts, or pumps, one on the outside for the good of the public, the other inside of a little pump-room for all who can afford to pay, either by the day, week, or month. At a little distance is "Gorl'd's Spa," discovered in 1784. The Victoria well, formerly Robbin's well, was opened in 1804, and at this period, a revolution took place in the Spas of Leamington, from being drunk at the original founts, and as they issued from their subterranean reservoirs, they were then enclosed in buildings, pumps inserted into the natural wells, and the medicated streams were distributed from silver cocks to the invalids.

As the reputation of the springs rose, so did the number of houses and hotels; and when, in 1808, a spring was found on the north bank of the Leam, which received the name of the Royal Spa, over it was erected a spacious pump-room, extensive bath-rooms, and a large piece of ground was laid out for promenades, music, &c. This is the Spa that appears to attract the greatest number of drinkers; partly from the great strength of the saline chalybeate, partly from the size of the pump-room, and partly for the pleasure grounds and music.

The springs of Leamington are saline, sulphureous, and chalybeate, containing in various proportions oxygen, azote, and carbonic acid gases; and the sulphureous springs sulphuretted hydrogen, with sulphate of soda, the chlorides of sodium, calcium, and magnesia; and, in some instances, silica, peroxide of iron, and traces of iodine and bromine. The local physicians,

of course, advise patients which springs to use, according to their complaints; and also the precautions to be employed. The ordinary season for using the waters is from May to October, and, during this period, plentiful open air exercise is deemed necessary to be taken along with the waters, a part of the treatment which is not the least important to the patient, and which the beautiful environs of the town allure him to enjoy in full perfection.

So rich, indeed, is the neighbourhood of Leamington in interesting and romantic attractions, that we are told a large party of artists, having resolved to give their opinion in writing, under a sealed cover, as to what spot within an extent of twenty miles each considered most to abound with picturesque scenery, celebrated spots of local interest, both ancient and modern, not forgetting the necessary adjunct of good roads, and accommodation for "man and horse;" by far the largest portion of the documents were in favour of Leamington. The palm was awarded to the twenty miles of ground that extend from Coventry to Stratford-on-Avon, through Kenilworth and Warwick; the Royal Spa at Leamington being midway from each point of attraction.

Let the visitor, thus stimulated to agreeable excursions in so many directions, set out, in the first place, on the route to Warwick, with its famous baronial castle, the tower of which, in all probability, nearly, if not quite, as old as the period of the Norman conquest, has successfully resisted all the accidents and decays of time, and remains at this moment almost as firm as the rock on which it stands.

The approach to Warwick Castle is calculated to produce the most striking effect. A broad and winding path, cut through the solid rock, gradually leads to the lofty and massive towers, ranged in an embattled line, unspeakably august and commanding, well confirming the fact that before the invention of gunpowder the fortress was impregnable. So formidable, indeed, was this massive pile once considered, that the widowed Countess of Warwick was interdicted from remarrying, except by the king's express permission; the turbulence of the times obliging him to act with this precaution and policy.

The structure has descended through the lines of Newburgh, Beauchamp, Nevil, Plantagenet, and Dudley, to the family of the present possessor. Thomas de Beauchamp, Earl of Warwick, who is said to have passed a great deal of his time in retirement at Warwick, built Guy's tower in the N.E. of the castle; and the unfortunate Duke of Clarence, brother to Edward IV., who married the daughter of the "king-making" Earl of Warwick, added much to its beauty. From that time to the present, considerable improvements have been made in the interior of the castle; each succeeding Earl having devoted a large portion of time and revenue to this purpose; and, in the progressive ameliorations, every attention has been given to preserve the antique character of the edifice. A grand face of the building is displayed towards the river Avon, based on the rock, which affords a foundation to the pile, and which here rises perpendicularly to a considerable height, before the stonework of the superstructure commences. The grand suite of apartments extend in a right line three hundred and thirty-three feet, and are finished with the most correct magnificence. Among the numerous paintings which adorn them are some by the famous Venetian painter Antonio Canaletti, who, in the early part of the last century, resided for a considerable time at the castle.

In a greenhouse, erected for its reception, stands the celebrated antique vase, brought by Sir W. Hamilton, formerly ambassador at Naples, from

the ruins of Adrian's villa at Tivoli. It is of a circular form, composed of white marble, and capable of containing one hundred and sixty-three gallons.

At Guy's Cliff house, on the western bank of the Avon, a hermitage is recorded to have stood, to which the renowned Guy Earl of Warwick retired, after the many valorous exploits recorded of him in this part of the country; and at Warwick a monastery chapel was erected by Beauchamp Earl of Warwick, in the reign of Henry III., with a statue to his memory. This celebrated warrior, Guy, is supposed to have flourished during the reign of Athelstan; and, besides his many victories over dragons, wild boars, &c., he is said to have decided the fate of the kingdom in single combat with an enormous giant, who stood, the champion of the Danes, at Mem-hill, near the walls of Winchester, when King Athelstan was there besieged. Many curiosities are shown in the castle as having once belonged to this hero, such as his spear, bucklers, spurs, bows, his porridge pot, and also the slippers of the beautiful Phillis, for whom he performed all these wonderful achievements.

From the great court of the castle the view is truly magnificent. The area is now fertile in soft and well-cultivated greensward; but still spread around, stand the mighty remains of fortifications, raised in turbulent ages, now long passed away. The outline of these relics is perfect, and none of the battlements have been ruined by time.

Not far from Guy's Cliff is a remarkable point of interest called Blacklow Hill, the scene of a well-known instance of the rude justice of our ancestors. On this eminence, on the 19th of June, 1312, Pierce Gaveston, the wretched favourite of Edward II., was beheaded. While the barons were discussing in Warwick Castle what to do with their prisoner, a voice was heard from one of them, "You have caught the fox, will you have to hunt him again?" This at once decided the matter, Gaveston was hurried to Blacklow Hill and there beheaded. An inscription, rudely cut upon a rock close by, commemorates the fact, and a cross was erected, as a further memorial, a few years since, on the summit of the hill.

After Warwick Castle, the chief attraction in the neighbourhood of the Warwickshire Spa is undoubtedly Kenilworth Castle; and the railway between Coventry and Leamington has a station at this point of interest. This once important stronghold, one of some historical consequence, was founded in the reign of Henry I., was garrisoned by Henry II., during the rebellion of his son. In the reign of the third Henry, it was used as a prison; and in 1254, the king by letters patent gave to Simon Montfort, who had married Eleanor, the king's sister, the castle in trust for life. Simon soon after joined the rebellion against the king, and together with his eldest son, was killed at the battle of Evesham in 1265. His youngest son escaped, and, with other fugitives, took shelter in the castle, where they became regular banditti. The king, determined to put an end to their excesses, marched an army against them. Simon fled, and escaped to France, but his companions held out against a six months' siege. At length their provisions failed, a pestilence broke out, and the governor surrendered the castle to the king, who bestowed it upon his youngest son the Earl of Leicester, afterwards created Earl of Lancaster.

In 1286, a grand chivalric meeting of one hundred knights of high distinction, English and foreign, and the same number of ladies, was held at Kenilworth; and at this festival, it is said that silks were for the first time worn in England. In the reign of Edward II. the castle again came

into the hands of the Crown, and the king intended to make it a place of retirement for himself; but in the rebellion which soon followed, he was taken prisoner in Wales and brought to Kenilworth. From hence, after being compelled to sign his abdication, he was removed to Berkeley Castle, where he was so inhumanly murdered in 1327. Edward III. restored the castle to the Earl of Lancaster, whose granddaughter brought it in marriage to the celebrated John of Gaunt, afterwards Duke of Lancaster, who made the many additions to the castle which still retain the name of "Lancaster's buildings." On his death it descended to his son Henry IV.

During the civil wars of the houses of York and Lancaster, it was alternately taken by the partizans of the white and red roses; and very long after their termination, Queen Elizabeth bestowed it upon her heartless and ambitious favourite, Dudley Earl of Leicester. That wealthy nobleman spared no expense in beautifying the castle, and in making many splendid additions, called after him "Leicester's buildings." But the most memorable incident in the history of Kenilworth Castle is the royal entertainment given by the aspiring Earl to his Queen. Elizabeth visited him in state, attended by thirty-one barons, besides her ladies of the court, who with four hundred servants were all lodged in the castle. The festival continued for seventeen days, at an expense estimated at a thousand pounds a-day (a great sum in those times). The waiters upon the court, as well as the gentlemen of the barons, were all clothed in velvet; ten oxen were slaughtered every morning, and the consumption of wine is said to have been sixteen hogsheds, and of beer forty hogsheds daily.

An account of this singular and romantic entertainment, published at the time by an eye-witness, presents a curious picture of the luxuriance, plenty, and gallantry of Elizabeth's reign. The queen performed her journey from London to Kenilworth entirely on horseback, and entered the domains by a stately bridge constructed across the lake which partly surrounded the castle, in order that she might thus enter it by a path hitherto untrodden, instead of the usual entrance.

On the departure of Elizabeth, the Earl of Leicester made Kenilworth his occasional residence, till his death in 1588, when it was bequeathed to his brother, Ambrose Earl of Warwick, and after his death to his own son, Sir Robert Dudley. But his legitimacy being questioned, Sir Robert quitted the kingdom in disgust; his castles and estates were seized by a decree of the Court of Star Chamber, and given to Henry son of James I.

The castle, on the untimely death of this interesting young prince, went into the possession of his brother Charles I., who granted it to Cary Earl of Monmouth; but the downfall of the gigantic structure was now fast approaching. During the wars it was seized by Cromwell, and by him given to some of his officers. These rapacious plunderers, who had no sort of respect for the majestic pile, soon reduced it to what it now is, a mass of ruins. They drained the lake, which once flowed over so many hundreds acres, ravaged the woods, beat down the walls, dismounted the towers, choked up its fair walks and rooted out its pleasant gardens, destroyed the park, and divided and appropriated the lands. On the restoration of Charles II., the estate and ruins of the castle were granted to Lawrence Viscount Hyde, of Kenilworth, and by the marriage of a female heiress descended from him, passed in 1752 into the possession of Thomas Villiers Baron Hyde, son of the Earl of Jersey, who was advanced in 1776 to the dignity of Earl of Clarendon, from him descending to his son.

The "historian of Warwickshire" has given us the ground-plan of Kenilworth Castle, as it was in 1640. By this, we may trace the pool, and the pleasure; the inner court, the base court, and the tilt-yard; Cæsar's tower, and Mortimer's tower; King Henry's lodgings, and Leicester's buildings; the hall, the presence chamber, and the privy chamber. Without such aid, Kenilworth would only appear to us as a mysterious mass of ruined, gigantic walls, archways, and staircases, scenes of almost neglected desolation, which would have probably so continued for another century, but for the magic interest thrown around them by the visit of Sir Walter Scott, and the romance of 'Kenilworth' which followed it. "The torch of genius again lighted up every room so spacious," and they were, for ever after, to be associated with the recollections of their ancient splendour, when a lordly palace, where princes feasted and heroes fought, now in the bloody earnest of storm and siege, and now in the games of chivalry, where "beauty dealt the prize by valour won."

NINEVEH.—COSTUME.

THE love of personal adornment, compounded doubtless of the natural admiration which we feel for that which is beautiful, and the self-love which prompts us to associate ourselves with it, is not confined to any age or region, but prevails among the most savage and the most refined nations. But among the Asiatic races, this feeling has acquired the intensity of a passion, especially among the inhabitants of the Euphratean basin and the regions immediately adjoining. The plain of Shinar in very early times was celebrated for the gorgeousness of its robes, as appears from the "goodly Babylonish garment" which was found in the spoil of Ai (Josh. vii. 21), and caused such trouble to Israel. And at a latter era, this celebrity was by no means diminished. The Greek and Roman writers have left us abundant testimony to the splendour of Babylonish apparel. The mantles wrought on the Euphrates found their way to the western world, principally through the Phœnician traders, and were held in high esteem. They were of brilliant and various colours, generally arranged in figured patterns, probably resembling those of modern Turkey carpets. We cannot certainly gather from the loose manner in which they are described, whether the colours were painted or dyed on the stuffs, whether they were interwoven in the loom, or were embroidered with the needle. Perhaps all these modes were in use. But it is certain that from their glossiness and tasteful combination of beautiful colours, they produced a very rich and splendid effect: they were also very costly, and considered as indicative of great luxury in the wearers.

The value attached to raiment, as being reckoned, with gold and silver, among the most precious treasures, is shown by many passages in the Sacred Scripture; and the custom just alluded to, a custom of very great antiquity (Gen. xli. 42), of conferring splendid garments and ornaments as an expression of the royal favour, indicates the same habit of feeling. The custom has continued in full force to the present time in all the Oriental countries, but is most conspicuous in Persia. There the *Khelat* or dress of honour is the chief of the rewards and dignities which the sovereign can bestow, just as it was when Mordecai was clad "in the royal apparel of blue and white, and with a great crown of gold, and with a garment of fine linen and purple."

The Holy Scriptures, as we have seen, in their brief allusions to Assyrian manners, intimate that they also partook of the passion for magnificent vestments. Ezekiel repeatedly mentions the gorgeous clothing of the captains and rulers, which is particularly described as *blue* (the royal Persian colour, Esth. viii. 15), and Nahum speaks of the valiant men as clad in scarlet (Nah. ii. 3), by which colour is probably meant what we should now call *crimson*.

The sculptures, though they give copious representations of the kings and the *grandees* of Assyria, afford us little light on the colours or materials of the garments that invested them; the medium of preservation admits only of the tradition of forms, but by these alone we are able to infer somewhat of the richness of costume that adorned the court of Nineveh.

Long, flowing robes, more or less loose, have always been characteristic of Asiatic dress; but the form and fashion of the constituent garments



EMBROIDERED ROBE (*Nimrod*).

differ among different nations more than is commonly supposed. The imperfect perspective employed by the Assyrian artists, who knew not how to foreshorten, and the absence of all folds in the bas-reliefs, produce much

difficulty in our minds when we would describe from these monuments the mode in which the garments were cut, and the manner in which they were put on.

Let us now turn to the monuments from Nimroud. In a scene where the monarch appears seated on a stool-throne, receiving a cup in the presence of his priests,—we find him arrayed in a robe, a loose wrapper folding-over down one side, coming up close around the neck, and furnished with close sleeves terminating a little above the elbow. This robe has the whole breast, and a wide border, covered with mythological figures and scenes, most exquisitely and delicately embroidered with the needle, or painted with the pencil. An inner robe, the edge of which is seen below that of the former, has a similar border of embroidering. The outer robe has a broad edging of a material, which from its identity with the conventional mode of representing the coats of sheep, goats, &c., is, without a doubt, intended for fur.

A narrow belt or ribbon, edged on one side with fur three or four times its own width, passes over the left shoulder, and down to the right hip, over the girdle (which encircles the robe), and over the sword-hilt; and a sort of cape (or scarf, for it is difficult to tell its real character) hangs down behind the shoulders to the waist, the end of which is richly embroidered and fringed with tassels.

On ordinary occasions, the wrapped robe was exchanged for a mantle, open up each side to the shoulders, thus forming two hanging portions, reaching nearly to the feet, the corners of one portion, sometimes of both, being rounded. The borders were generally embroidered in a pattern of rosettes, and edged either with fur, or a fringe of tassels closely resembling that of our bed-furniture, &c.



SPENCER AND SKIRT.

Sometimes the under-gown is represented as cut short in front, on a level with the knees, while the hinder portion descends to the ankles; the margin of the former, like that of the latter, is fringed and tasseled, and from the angle on each side, or perhaps from a higher point, descend two long cords with terminating tassels, each pair sometimes knotted together. When this form of the under-gown is worn, it is accompanied by a corresponding abbreviation of the front portion of the divided mantle. It is seen principally on the winged priests; who appear sometimes to have worn an outer mantle composed entirely of fur.

Out of doors, as when engaged in hunting or in battle, the early Assyrian kings and grandees often wore a close-fitting jacket or spencer; from the hinder part of which descended, to about half-way down the thighs, a curious appendage, a square piece of cloth, in general elaborately embroidered, even when the other garments were plain, and furnished at each corner with two long cords terminating in tassels.

The ordinary dress of the Assyrian men was a plain robe, with the margin embroidered and edged with a fringe. Eunuchs commonly, but not always, wore it very long, reaching to the feet; that of men more generally reached only to the calf of the leg, or to the knees. The width of the marginal embroidery appears to have borne some proportion to the

rank of the wearer; the grooms, and such like persons, often were destitute of it, their garment being only fringed; yet this rule was not without exceptions, for sometimes the vizier's robe was profusely embroidered, when that of the monarch before whom he stood, displayed comparatively little of this decoration.

Δ VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—No. XIV.



OPHTH.

THE excitement produced by these accounts was very great; and, as might be expected, there was a general rush from all parts of the colony to the locality of Bathurst to dig for gold; many of the parties only provided with a pocket-knife, and a tin mug, and many even without these rude implements, fancying, perhaps, that lumps, large as eggs, were lying about, ready to be picked up and pocketed. When the news reached the colony of Victoria an equal degree of excitement was produced there also, and every vessel that could be spared was instantly laid on to convey the population from Melbourne and Geelong to Sydney. All existing interests in New South Wales appeared to be in danger of disorganisation, while the sister colonies were threatened with depopulation and absolute ruin. In order to prevent, if possible, these results, the corporate bodies connected with the various principal towns and districts, offered considerable rewards for the discovery of gold in their own immediate localities; and as the knowledge gradually spread that one part of the great Australian Cordilleras was as likely to yield gold as another, a large number of exploring parties was soon eagerly engaged in the search. The result was beyond the most sanguine expectation. One locality after another was tested and

found *not* wanting; and the richness of the latter discoveries outshone that of the former.

But the discoveries in the colony of Victoria were the most astounding. When the inhabitants of that colony were in the full tide of emigration from Melbourne to Sydney, with the intention of rushing to the Bathurst diggings, the news was suddenly promulgated, not only that the reward offered by the corporation had met with a claimant, but that the Buninyong range, the gold locality there, was actually far richer in its yield than the Blue Mountains. The emigration was at once stopped; and the numerous vessels, which for weeks had been employed in emptying Victoria of its inhabitants, were immediately engaged in conveying the number back again with interest. The Ballarat diggings were the first which attracted attention there; but they were speedily eclipsed by the richer produce of Mount Alexander: and in a comparatively short period upwards of twenty-five thousand pairs of hands were engaged in digging, washing, rocking, crushing, buying and selling gold. A letter from a gentleman at Geelong thus describes the gold-field of the Buninyong range, and the richness of its produce of the precious metal:—

“Boninyong is an inland town, about fifty miles from Geelong, and it takes its name from a high volcanic mount, called by the aboriginal term Boninyong. The gold-field of which I am now writing is a spur of this mount, which stretches out for many miles. The first Boninyong gold did not yield satisfactorily; and a proclamation of his Excellency C. J. Latrobe, promising the enforcement of thirty shilling a-month licences, disturbed the diggers, who spread over the neighbouring ranges, and by sheer accident hit upon the finest gold-field ever known, within six miles of the one they had deserted, and in a continuation of the same range, on a sheep station held by Alexander Tuille, Esq. The yield of this field from the commencement was good. Individuals procured from a quarter of an ounce to an ounce per day. The yield then rose to three and four ounces per man, and the public were electrified by the news that three individuals had found twenty-seven ounces in two hours. It is true; I know the men, and helped to weigh the gold. Within a fortnight there were eight thousand men at Ballarat. Ballarat is the name of this gold-field; it is the Ararat on which the ark of Victoria rested, and saved the colony. Within a week of this period the diggers turned out gold in pounds weight daily. I have seen 5*l.* refused for a lump of earth no bigger than a man's fist; I have seen two shovels' full of earth yield 60*l.* worth of gold: seven thousand ounces have been sent down to Geelong and Melbourne in one week. Nuggets are being turned up hourly—I have seen them from a quarter of an ounce to seven pounds and a half in weight. In one word, gold is an ordinary article of merchandise; and men, clad in a blue shirt and fustian trowsers, are bringing into Geelong hourly gold dust and nuggets, wrapped up in rags, old stockings, pieces of handkerchiefs, and such like, to the amount of thousands. Men are realizing from 300*l.* to 400*l.* in three or four weeks: and many of my own acquaintance, who had hardly a pound to bless themselves with three months ago, are now possessed of 700*l.* or 800*l.* a-piece. One man returned to Geelong with fifty pounds' weight to his own share, the result of one month's work. From carefully-drawn statistics, it is predicted that, if the present rate of yield continue, we shall be able to export gold to the amount of five millions at least during the ensuing twelvemonth.

“Independent of Ballarat, new diggings have been discovered at Mount

Alexander, equidistant between Geelong and Melbourne,* and the yield at this latter place beggars description. I have not been there, but have seen the produce of that gold-field, which outrivals even Ballarat. Hundreds of pounds' weight have been picked up from the surface after a shower of rain, and a friend of mine picked up 35*l.* worth before breakfast. It is amazing to see the quantity daily. Capitalists are pretty well cleaned out already, and the banks are charging seven per cent. discount. It is proposed to raise a company of gold purchasers amongst the townsmen and diggers. There is stated to be a ton and a half of gold on the two gold-fields, awaiting escort. Independent of these gold-fields new ones are springing up daily, and the produce of gold increases with every rising sun. The whole of the soil of the Geelong and neighbouring districts is surcharged with gold. It is as the *Times* said of the Corn Laws, a "great fact." Government clerks have given notice of resignation; tradesmen are abandoning their business; policemen the protection of the public: in a word, the towns are migrating to the bush. Society is convulsed; servants have become masters, the world here is so turned upside down, and nothing is talked of but gold! gold! incessantly gold; and I, smitten with the fever, can write of nothing else. I would advise all parties doing indifferently at home to scrape all together, and immigrate to Geelong. There is room for thousands, every chance for doing well, and no remote prospect of making fortunes. Provisions are moderate; the gold-fields are within two or three days' journey of Geelong, and the inconvenience of a bush life is recompensed a thousand-fold by the profits of gold-digging."

An intelligent compositor, writing from Melbourne in November last, thus describes the effect of the discoveries above alluded to, and the state of affairs at that period in Melbourne.

"Three or four weeks ago there was an overplus of printers;† now there is not only not one out of work, but they cannot be got for love or money. There are nine wanted for government office, six for the *Argus* office, three for the *Herald*, and six for our place, the *Daily News*. You will, perhaps, be anxious to know the reason of all this; if you refer to the accompanying papers you will see that it is all owing to the 'diggings.' We have most extensive gold-fields within sixty miles of us, a three days' journey, and it is to this field that most people are wending their way. In fact, such is the excitement in town, that no one is satisfied to remain behind, but off they must go to try their fortune.

"Last Saturday, the armed escort came down from Mount Alexander, and so heavy was the quantity of gold sent down, that two horses could not carry it, and they were obliged to employ a dray to convey it to town. The amount was the enormous sum of 200,000*l.*, all collected (so it is said) in the course of one week. Such an amount was staggering, and it has given me even a touch of the gold fever, and I have made up my mind to join a party of three steady men who are about to go up—three who can be depended on. To this end I have written out my notice to leave, and in a fortnight from this I shall be on my way, if all is well, to

* This statement of position is ambiguous. Mount Alexander is certainly nearly equidistant from Geelong and Melbourne, being about eighty or ninety miles from either; but it is not *between* them, as it is at a point forming the apex of an irregular acute-triangle, on a base-line drawn between the two towns, the base-line being the shortest.

† The writer only alludes to his own trade; but the same result was apparent as regards every other branch of industry.

the gold-field. From this you will see how changeable things are here—one day here, another day there—no certainty. I know not how long we may remain at the diggings, but we take provisions for at least three months, so it is most likely you will not receive any letters from me for that time. When I return I will immediately send you word how we got on; and, if successful to any amount, will send you a good ‘nugget’ or two; if very successful, I would not mind taking a trip home again and then returning to Australia. Do not on any account make yourselves the least uneasy, as, if I am not successful, there is plenty of work in the town for the next two or three years.”

The following letter, which was addressed to Mr. Wharton, of Claywood Cottage, Sheffield, gives a still more graphic account of the effect of the gold discovery:—

“You cannot conceive the revolution it has caused here. There are not less than 20,000 men gold digging, besides women and children, all of whom two months ago were in Melbourne, or Geelong, at work in their proper trades; and now, save and except drapers, grocers, and iron-mongers, we are at a dead stop. Two hands are worth five heads, and men who for a life have been slaving for 25s. or 20s. per week, are now earning 20l., 30l., 40l., or 50l., and as much as 60l. per week, digging up gold by pounds, picking it out in lumps with the point of a pocket knife, and walking into a draper’s shop, and clothing their wives and children in silks and satins, or fooling and drinking away their money in a style that would startle you Sheffielders out of your senses. We are paying 3s. for water where we paid 1s.; 1s. 4d. for bread, where we paid 8d.; 6s. for carriage where we paid 1s.; and so on, all the way through; while, on the other hand, we have a ‘government escort,’ or conveyance, bringing every week into town, from the gold field, a ton of gold. We turn up our noses at California, and treat with contempt all the other gold mines in the world. Ours lies on the surface, and after a shower of rain, you may see it with the naked eye, and a child can put in a spade, and dig that with his little hands in one minute, which many of you in England wear your eyes and heart in getting. The gold is found all over the country nearly, and there is enough to satisfy reasonably all the people that may come either in a direct or indirect way; and from the surface down to twenty feet in the ground, you may get more or less. It is a common thing to see it in dozens of shop windows, and there is nothing else thought or talked of. It is worth 3l. 17s. 10d. in England, and has been selling here at 3l. 1s. up to 3l. 2s. 6d. It now has fallen to 2l. 14s. 6d. per ounce, because, listen,—We have not sufficient money in the colony to buy it;—there is so much of it brought, and likely to be brought, into the market. And now, you ask, what am I doing? Why, I ‘am gold digging’ as soon as I can; I could not honourably go before, because I must attend to those who employ me: but now my ‘occupation’s gone,’ and I am off as soon as possible, that is, as soon as I can find a suitable party; for, in this way we all go, in companies of three, four, five, or six, or more together, for mutual protection, as well as for increased labour. The gold is found in the bush, so all have to sleep in tents, and put up with great inconveniences, of course; but then gold pays for all, and though I don’t like gold digging, yet I must do something; but still I would rather have 1,000l. a-year in town than 2,000l. in the gold-fields, and shall act upon this.”

HISTORY OF CAOUTCHOUC.—No. III.

BOTANICAL HISTORY OF CAOUTCHOUC.

It may appear singular that the vegetable nature of caoutchouc should ever have been questioned; yet it is certain that many philosophers ridiculed the idea of its being a botanical product, and considered it somewhat of a mineral. This curious idea was at length dispelled by Dr. Roxburgh, who fully confirmed M. De la Condamine's statement, that it was the inspissated juice of a tree, and carefully described the trees which yielded it. Its botanical history is interesting, and can now be given complete. The Indian caoutchouc is principally obtained from the natural family, *Artocarpaceæ*. The American, on the contrary, is derived from trees which are classed by botanists among the *Euphorbiaceæ*. The most important source of the East-Indian caoutchouc is the *Ficus elastica*, a relative of that magnificent tree, the banyan, so famed for its "pillared shade, whose daughters grow about the mother tree." The *Ficus elastica* belongs to a species of plants which yield in abundance a milky juice, possessed of various properties. Some of the species are among the most formidable, as regards the properties of their juice and produce, of vegetable productions. Others are harmless, or even useful and agreeable. The *Ficus elastica* is described by Dr. Roxburgh as a tree growing to the size of an English sycamore. It is called Karmeer by the inhabitants of the Pundua and Juntipoor mountains, which bound the province of Silhet on the north, where it is indigenous. It is also found in Assam, between the Burrampooter and the Bootan Hills. It is a handsome tree, with an erect trunk, growing sometimes as large as to be six feet and upwards in circumference. It grows with great rapidity; a tree only four years old having attained the height of twenty-four feet, its trunk being three feet in circumference. Its leaves are very beautiful, well formed, smooth, polished, and of a lustrous green. From the larger branches roots descend to the earth, as is the case with many other members of the same family. The situations in which it flourishes are peculiar. It is principally found in rocky chasms; its roots plunged among the *débris* of mountains and vegetation, and here it elaborates that wonderful liquid which yields the caoutchouc in such abundance. The plant is now common in our hot-houses, and we have seen several fine specimens in the large conservatories. In that at Kew are some fine healthy trees of this species. Dr. Roxburgh says that old trees yield a much richer juice than the young ones. It is also stated to be a curious fact, that the juice of the latter remains much longer in its fluid or undecomposed state than that of the former, from which it would appear to follow that a larger portion of caoutchouc was contained in the sap of the older trees than in that of the younger ones. The milk sap is extracted by incisions across the bark, down to the root, at a distance of about a foot from one another, all round the trunk or branch, up to the top of the tree; and the higher incisions, singularly, are said to yield a much larger supply of the valuable fluid than those lower down. After one operation, the same tree requires about a fortnight's rest, when it may be again repeated. During the cold season, from October until March, the juice is more scanty than in the warm weather, from March to October, but it is then also richer. When the sap is exposed to the air, it separates spontaneously into the firm, elastic caoutchouc, and a disagreeable-smelling

whey-coloured fluid part. Fifty ounces of the pure milky juice, taken from the trees in August, yielded exactly fifteen ounces and a half of the clean-washed caoutchouc.

In addition to the *Ficus elastica*, other trees, natives of India, yield caoutchouc. Among these are the Tak-tree, *Artocarpus integrifolia*; the Banyan tree, *Ficus Indica*; and the Pippula tree, *Ficus religiosa*. In the countries eastward of Bengal other sources of it have also been found; among these is a scandent mango, called *Luti Aru*, a beautiful description of climbing apple, called *Sadal Kowa*. These abound in a milky fluid, which contains a large proportion of caoutchouc. The *Urceola elastica*, first described as the chief source of caoutchouc in India, by Dr. Roxburgh, also yields it in abundance. In all these instances the substance is the same, but in none does it appear so perfectly formed, and of so good a quality, as that obtained from the milk-sap of *Ficus elastica*, which has now come to be generally recognised as the Indian-rubber tree of the East Indies. Professor Royle, who has paid much attention to this subject, and to whom India is deeply indebted for the present importance of many of her commercial products, has long been endeavouring to gain public notice for the vast supplies of caoutchouc which that country is capable of affording. He states that in the East there might be any quantity of the article procured from a great variety of plants, if the natives could only be induced to collect it with sufficient care. The South American caoutchouc is generally collected with so much greater care than that from the East Indies, that it bears a much higher price in the market. That from India is, it is true, of an excellent quality, but it is generally so much mixed with a considerable quantity of dirt, bark of the tree, and other extraneous matter, as to be almost useless for the purposes of the manufacturer. So impure, indeed, is the majority of the East-Indian caoutchouc, that it cannot be turned as such to any useful purpose whatever, and can only be employed for the purpose of distilling from it the volatile spirit *caoutchoucine*. In 1836, East-Indian caoutchouc was selling in the market at twopence a pound, whilst that from Para fetched from 2s. 6d. to 3s. a pound. Caoutchouc is abundant also in the southern parts of China, and is exported from the island of Singapore. The Mauritius, Madagascar, Java, Penang, and other islands and countries of the East, abound in caoutchouc-yielding trees; whose juice is so extremely valuable that it is a matter of no little surprise that the negligence of the natives should be allowed to continue the sole obstacle to its extensive importation from these localities. Latterly, however, there has been a vast improvement in the character of the imported caoutchouc of Eastern India, and large quantities have been brought into the market, of so excellent a quality, as to have reduced the price of that from Para more than thirty per cent. There was, for a long time, a singular apathy about the development of this commercial resource of India. A parcel of it was sent, in 1828, from Assam, to a principal agency-house in Calcutta, and, strange enough, the house was puzzled to know what to make of the article, and returned answer to the zealous collector who had forwarded it, in sanguine expectation of its rapidly assuming a high commercial importance, "The article being unknown in the Calcutta market, we are sorry we can give you no idea of its value." Caoutchouc was then selling in London at 2s. a pound. There has been a little revolution in the minds of commercial men since then even in India, for in 1838, 925 bazaar maunds of caoutchouc, value 74,000 rupees, were exported.

The South American caoutchouc is chiefly, if not exclusively, obtained from a tree belonging to the acrid and dangerous family of plants, the *Euphorbiaceæ*. The name given to this tree is variously, the Syringe-tree, or the *Siphonia elastica*, or by the Americans, the Rubber-tree; the names *Siphonia* and *Seringa* have an evident allusion to some of the purposes for which caoutchouc is employed. The tree grows luxuriantly on the banks of the Amazon and its tributaries. It is described as attaining a very great height, being, at the same time, perfectly straight, and having no branches except at the summit, where they form a conical crown. Its leaves are not unlike those of the manioc, are coriaceous, and highly polished on both sides. From its seeds an oil is extracted, which forms, it is said, a substitute for butter among the Indians.

Before closing our summary of the botanical history of this material, it is useful to notice the fact, that caoutchouc is a substance far more widely diffused among plants than has hitherto been considered. In addition to the two families which yield the caoutchouc of commerce, the *Artocarpaceæ* and the *Euphorbiaceæ*, caoutchouc has been discovered in the sap of plants belonging to the *Cichoraceæ*, *Lobeliaceæ*, *Apocynaceæ*, and *Asclepiadaceæ*. Several plants belonging to these families are employed in the manufacture of lime. Professor Royle says it is singular, that in these same families should be contained the several plants on which the silk-worm feeds, when unable to obtain its favourite food, the leaf of the mulberry. Thus in Europe it is fed on the leaves of the lettuce and dandelion, which belong to the *Cichoraceæ*; so in India, the leaves of *Ficus religiosa*, of the family of *Artocarpaceæ*, has been found the best substitute for the mulberry leaf. A caterpillar which spins a very large cocoon of a kind of tough, coarse silk, feeds upon the leaves of the South American caoutchouc tree, *Siphonia elastica*. Considering such facts were not likely to be accidental, Professor Royle was led to suppose that this substance, caoutchouc, might possibly form a necessary ingredient in the food of silk-worms, and be in some way employed in giving tenacity to their silk. He, therefore, inferred that caoutchouc might possibly be found in their favourite food, the mulberry leaf, and requested M. Sievier, who has paid much attention to caoutchouc, to ascertain the fact. In a short time the conjecture appeared to be established; the sap of the mulberry leaf was found to be milky, and to contain caoutchouc. This subject has its importance, for it gives us somewhat of a clue to successful management of this fastidious but invaluable insect. The number of plants suited to silk-worms may, probably, be increased, by experimenting on those belonging to families which yield caoutchouc. It does not, however, by any means follow, that all which yield this principle are adapted for its food, since some contain in addition, as we have already noticed, a highly-pernicious and acrid principle, which would, of course, render them unsuitable for such a purpose.

THE SEA APPRENTICES.

"You will be so good as to mind your own business," said James Sinclair, reddening with anger; "I tell you once more, Bill Cousins, if I don't know what to do I shall ask those who do, not those who only fancy they know better than other people."

"You might speak civilly, I suppose," cried the other. "I know this,

if I should get conceited I hope some one will throw me overboard to cure me, or to get rid of the nuisance."

"I know what you mean," returned James. "Why don't you speak out like a man if you have anything to say. You mean that *I* am conceited, don't you?"

"Perhaps I do."

"Perhaps," repeated James, more angrily; "none of your perhapses, if you please; but it's not worth my while to trouble myself what such as you think or says."

The two youths between whom this dialogue took place were, one, an apprentice to the owners of the 'Medusa,' on which they were aboard, the other to the captain of the vessel. A rivalry, and, consequently, a dislike, had existed between them from the hour of their meeting. They were both active, smart lads, very courageous, and of nearly the same size and age. The disposition of each was good, but their temper was very dissimilar; that of James was peculiar in a singular degree. He was very sensitive, felt deeply the slightest word that appeared to reflect upon him, and would long brood over an expression that another boy would have scarcely noticed, or at least would have cared for beyond the passing moment. Bill was good-humoured, thoughtless, and merry-hearted; quick to retort a hasty word, and as quick to forget or forgive one. It might be saying too much to assert that actual hatred existed between them. Bill certainly could have hated nothing; but they disliked each other exceedingly, and rarely met but to spar.

James had the advantage in birth. His mother was a gentlewoman and respectably connected, but the premature death of her husband had placed her in very indifferent circumstances. Bill's parents were poor but honest persons living in the seaport of Yarmouth; James was too proud, perhaps too well principled, to take advantage of his superiority in this respect, but he felt it. They were, however, regarded as equals by all on board, and no greater favour was shown to the one than to the other.

It was unfortunate, but it constantly happened, that their wishes, their views, and their interests, clashed; and let them be allowed to go ashore, or be obliged to remain on board, they were constantly placed in an antagonistic position. James would even have liked his captain better if Bill had not been his apprentice, as this circumstance seemed to give his rival a nearer interest in his superior than he himself possessed; while the captain, aware of the ill-feeling subsisting between the boys, was careful to avoid any particular sign of regard for either. He had overheard part of the foregoing conversation, and, desirous of putting a stop to it, he gave orders to each that separated them, reserving the observations he intended to make upon it to James to a more favourable opportunity.

"James," said Captain Hartley, when this opportunity presented itself, "I might severely reprove you for what passed between you and Bill Cousins yesterday; for it is not the first time by many that I have had occasion to speak to you on the subject; but you know it is not my way to use a harsh means whilst there is a hope that gentler may succeed."

The fluctuations of James's colour showed how painfully he felt this opening; but he fixed his eye steadily on the captain in silent anticipation of what was to follow.

"I regret extremely," resumed Captain Hartley, "to find that you and Bill agree no better than formerly. I think if there is any difference between your ages, you are the elder, and I am aware that your friends

hold a better rank in life than his ; here are two reasons why you should set him a good example, and two reasons, if you do not, why you are more blamable than he in continuing these disputes. You will also lose the advantage you have thus accidentally over him, and will be in reality lower than he ; for whoever acts unworthy of the name of a gentleman, which he may claim, does not place himself merely on a level with an inferior, but so much the more beneath him as he was his superior. But to the point, what have you to say against Bill ?”

James was silent for a moment ; then, prompted by that spirit of obedience which is the soul of discipline, he said, “I have nothing to say against him.”

“Why, then, do you dislike him ?” demanded the captain.

“Because I can’t help it,” replied he.

“A very poor reason, indeed,” said the captain, with some degree of severity. “‘Can’t help it, sir!’ we may help anything that does not carry impossibility with it. The long and short of the business is, you are jealous of each other—a paltry cause of dislike truly, and a most unchristianlike one into the bargain. Look, James, it behoves all men, let them be placed wherever they may, to cultivate good feeling between each other ; but we seamen have double motives for maintaining a friendly understanding with one another ; a common danger at all times menaces us, one feeling, therefore, ought to bind us together. We are obliged to rely on the cordial assistance of all hands on board ; we are, therefore, essential to each other, and mutually indebted for safety, for comfort, and for our welfare individually and collectively. Civility is the least return, then, that we can make to one another ; while, by introducing or keeping alive among ourselves unfriendly sentiments, unaccommodating manners, or unkind acts, we destroy the good of the whole, and make ourselves unworthy of that protection which the great Being above can alone afford us. Let me, therefore, neither see nor hear anything more for the future of these paltry disagreements between you and Bill ; a want of harmony between each other, I shall regard as a mark of disrespect to myself, and a contempt of my orders. Do you hear that, Bill ?” continued he, perceiving the youth with open mouth and eyes, standing not far from him.

“Yes, sir,” said he.

“Then mind you do as I desire,” said the captain.

“It’s not that I dislike him, it’s he that dislikes me,” returned Bill.

“No matter for that,” said the captain ; “people who wait to find out the causes of disputes and dislikes, instead of making them up and trying to be good friends, will be as far from their point at last as when they first steered towards it. For the future, endeavour to like each other, and contend only who shall do his duty best.”

The name of Bill called loudly by the boatswain took him instantly away.

“You may go too, James,” said the captain ; “remember what I have said, and act upon it ;” then looking him in the face, he added, “One thing more I will tell you,—they are not always the truest friends to whom we first take a liking, nor do those always prove the worst of whom, to begin with, we thought but very little.”

There was a mixture of mortification and gratified pride in the feelings of James at this address ; but if it flattered him in some degree, it failed in any to influence him in regard to his dislike of Bill. He carefully avoided, indeed, any open dispute, nor did either seek to irritate the other, but in all other respects they were in heart the same.

The Medusa was now lying off the town of——; James had a great desire to go ashore, an indulgence which he knew must be granted him by an arrangement with Bill. But owe a favour to him! no, that he would not, he would sooner stay on board for six months longer, or never set foot on shore at all till they were again in port, than owe the slightest favour to any one like him. Bill, on the other hand, knew very well what James desired, and was also equally aware how the matter could be managed; but he was determined that James should ask the favour of him; and he wished many strange wishes to himself, if he was fool enough to make the first offer.

As this was passing in his mind, the captain exclaimed—

"Bill, you may go ashore with the mate;" then turning to James, he said, "You shall go next."

James looked excessively disappointed. Bill saw it. "Go instead of me," whispered he, "I'll speak to the captain."

"I don't wish to go," returned he quickly, and he turned away.

"Oh, very well!" cried the other, and in another moment he had stepped into the boat alongside of the vessel, and was rowing off with the mate and his companions. James caught his eye at the instant, for he was looking over the gunwale. Bill cast a glance of exultation at him, or at least James fancied that he did, and nodded to him at the same time. A feeling of increased dislike and vexation was the consequence; nor were these uneasy sensations removed or lessened, when on his return Bill boasted, whenever he had the opportunity, of the pleasures he had enjoyed.

"I thought you wished to go ashore," said Bill, addressing himself to James.

"Not I," replied he.

"Well, if you *did* wish it," returned Bill, "I can only say it is a pity you did not own it. I did not care much about it, and if you had said a word to me I would have spoken to the captain."

"Say a word to you!" repeated James, with crimson cheek and flashing eye. "Not I! no not to save my life from drowning."

"Heugh, heugh," said Bill, whistling, "what has affronted you all of a sudden? wait, then, till you want me; and than let's see what we shall do."

"Go about your business, boys," exclaimed the mate; "if you have nothing to do, I advise you to find out some better sport than to be disputing here; be ashamed of yourselves," and as he spoke he laid his hand upon the shoulder of each, and with a forcible jerk threw them at a distance from each other.

Some little time after this, the vessel anchored at Lynn, for the purpose of discharging a part of her cargo, and taking in a fresh consignment.

When this was done, the wind being contrary, and appearing likely to continue so, frequent opportunities were afforded the men of going ashore. It was in the middle of July, and the weather was extremely hot even for the time of year. On Sunday, James, who had been to church, was taking a walk by the river which ran through the town, and emptied itself into the sea about a mile from it; its smooth surface looked so cool and tempting, that he was seized with a desire to bathe. Instantly divesting himself of his clothes, he plunged into the water; finding it more shallow than he expected, he bore off from the bank towards the middle of the river. In a moment he felt himself in deep water; he lost footing, and unable to swim, he was soon aware of his danger.

The current had formed a deep channel, embanked on each side by an accumulation of mud. The tide was going out rapidly, so that the youth found himself, in spite of his efforts to gain or to maintain his hold in the side of the bank when he had succeeded in reaching it, in the most imminent danger of being carried out to sea. He was naturally, as has been said, very courageous, and young as he was, his presence of mind did not desert him; but he was fully conscious of the peril of his situation, as well as of the improbability of assistance. It is a question even if thought of the latter did more than cross his mind. He felt he was alone, and that if his own exertions did not save him he was lost.

Borne by the receding tide against which he in vain struggled, his strength was beginning to fail, when suddenly a voice exclaimed, "Hold on, hold on," and Bill Cousins was seen swimming with all his power towards him.

"Hallo, Jemmy!" cried he "seize hold of my loins, I can swim well enough for us both."

James eagerly did as he was desired, and for a few minutes they proceeded vigorously together; but soon Bill's strokes were less nervous, and at length he exclaimed, "Oh, Jemmy! you must let go, we shall both sink."

Strange as it may appear, when the natural love of life is considered, and remembrance is had of the many fatal accidents to which that love on such occasions has given rise to, it is nevertheless a fact, that the youth did as he was requested; he relinquished his hold, and immediately sank into deep water. As he rose, his feet again struck against the bank, and he endeavoured with all the strength remaining to him, to grasp the mud and to gain footing in it. His efforts were ineffectual, though manfully maintained. His situation was momentarily becoming more desperate, when again the voice of Bill was heard close to him. Relieved of his load, the latter had recovered breath, and strength returning, he swam quickly back to his companion.

"Take hold of me, Jemmy," cried he; "now for it, we shall do it this time."

James seized the proffered hand, and with a few more struggles he cleared the bank, was again in shallow water, and in another minute or two both had reached the land. In the impulse of the moment they threw their arms round each other in cordial embrace, then faint and exhausted they cast themselves on the ground.

James was the first to speak:—"I owe you my life," said he, "forgive all that has passed and—"

"And be friends," cried Bill, springing up, "ay that I will, as long as I live, so here's my hand in earnest."

James clasped the extended hand, pressed it cordially, and tears on each side sealed the contract.

"But how came you here?" asked James, "I never saw you till the moment you called to me."

"I was not far behind you, though," replied he; "when you plunged in the water, I was not sure that it was you till I looked at your clothes: I had swum past you a good way, when coming back I saw what was the matter, and that you were carried away by the tide. But I must swim back for our clothes. Stay here, Jemmy, and I will be here again as soon as possible."

Again he plunged into the river, whilst James sat on the ground awaiting

his return. A variety of feelings passed through his mind, as he had thus leisure to review what had occurred. What a revolution had been made in his bosom; where now was his dislike of Bill Cousins? It was gone, vanished altogether, and in its stead a sentiment had succeeded, which, so far from seeming strange, appeared at once natural, and the only one that could ever have subsisted between them. As soon as he saw Bill approaching with the clothes under his arm, he ran to meet him with all the frankness and cordiality of friendship. No allusion was made by either to former variances. The preserver and the preserved, evidently understood each other, and from this time their behaviour to one another, was the reverse of what it had been formerly. The alteration gave universal satisfaction to all on board, and the youths themselves were made happy in consequence.

The 'Medusa' regularly traded between Yarmouth and the Ionian Islands. In the two following years she had made several voyages, throughout which an uninterrupted harmony had continued between the former rivals. In the middle of the summer of the third year, the weather having proved very moist and sultry, a good deal of sickness prevailed, especially at Corfu. They had not sailed from this place many days, when Bill was attacked by a fever that had there proved very fatal. He became delirious almost from the first. It was now James's turn to show him all the kindness in his power, and his earnest entreaty to be allowed to attend upon him was granted.

"He saved my life, sir," said he to the captain, "and it is the least that I can do, to endeavour to save his. He does not often know me, and I feel it a severe cut when sometimes he tries to thrust me from him, and abuses me, as if all his old dislike had returned, and he could not bear me in his sight. But then again, he seems to have some sort of recollection of me, and to be pleased that I should be near him, and that is quite enough for me to wish not to leave him for a minute."

"And I have no desire," returned the captain, "to separate you, but as it concerns yourself; we are never so safe, however, as when we are doing our duty, and gratitude is a duty of the first order; death and danger know no lurking-place for those who try to find one against warrant."

"But you don't think poor Bill will die?" said James tremulously, and looking anxiously in the captain's face.

The latter shook his head. "He has youth on his side," replied he, "and there's much in that; the old weather-beaten hulk soon sinks beneath the storm, before which the new-built vessel only drives. But he is very bad."

James turned ashy pale, and his eyes swam with tears.

The captain perceived it. "You feel much now," said he, "but be thankful that matters are as they are. Grief for a friend is a better guest in any man's bosom than exultation over a prostrate foe: the first has something sweet in its very bitterness, the other is bitter even as gall in its pretended sweetness."

Poor Bill became worse and worse, and all hopes of his recovery was abandoned. He had been very violent for some hours, when he grew calm. James hoped he was sinking to sleep, and he stood, scarcely daring to breathe, by the side of his bed. Bill still, however, occasionally muttered parts of a sentence, though it was difficult to understand what he said. Now he lay perfectly quiet. James leaned a little forward to look at him, and saw his lips again move, and that his features showed agitation. "Hold on, hold on," said the patient suddenly, and in an unnatural voice, "your hand, where is it?" and he appeared to feel for it; "now for it;" a general

movement of his frame followed as if he was attempting to swim. He started, awoke, and gazed wildly around him.

"I have been dreaming," said he, very feebly, after some minutes' pause. "I thought we were in the river at Lynn together; that was a brave act of yours, to let go of me, when I asked you; I have never forgotten it; it is that which has made me like you so well."

His eyes closed, and his words were indistinct; James stood quite still, fearful of making the least sound to disturb him. On a sudden Bill's canary-bird began to sing loudly; the shrilly note pierced the ear, now become heavy; with difficulty he turned his eyes to James. "Take him," murmured he, "for my sake."

The bird ceased not to sing, till after the heart of his master had ceased to beat, and the tongue that had so often extolled his song was mute for ever.

The broad disk of the sun was glowing amidst the gorgeous clouds which reflected their resplendent colours on the calm surface of the Mediterranean when the crew of the 'Medusa' were assembled on deck. A solemn silence, broken only by the deep and sonorous voice of the captain prevailed. He had commenced reading the burial service for the dead. Seriousness was stamped on the countenance of all, for they who mourn not actually for the departed, are yet on such occasions impressed with a sense, probably, of their own mortality, or with an awe, which can be accounted for only as it is natural; but there was one among them, standing nearest to the corpse, whose youthful frame shook with agitation, and whose every thought and feeling were engrossed by the dead alone; one who in the intensity of his sorrow, dwelt on death only as it had separated him from the friend he had loved. His face was hidden by his hands, till a movement on deck made him involuntarily withdraw them. A universal paleness overspread his features, as some of the crew raised the body; he made a spring as if to arrest them, then shuddering stopped his ears, and covered his head in the folds of the sail that was near him. Poor James! he felt at that moment as if he and comfort could know each other no more.

The canary-bird was taken, on James's return to Yarmouth, to his mother, by whom it was carefully treasured. It was never forgotten in any letter which passed between her and her son, and its welfare was one of the first questions asked by the young sailor as he entered the house after a voyage had been completed. It died at length of old age, in James's own hand.

"Poor fellow!" said he, the image of Bill filling his mind as he stroked down the feathers of the bird, and pressed it to his cheek; "poor fellow! I shall have nothing now to remind me of you."

"Nothing?" said his mother impressively.

James looked at her, reflected, then catching her meaning, he said—

"Right, mother, poor Bill's remembrance is and must be a part of myself, for such as I am, I owe to him. Right, mother, his memory in good actions will cheer me—in bad it will reprove or check me; in the success that may follow me, or the trials that may prove me, I shall be reminded of him. I shall have no need for outward tokens to recall him to recollection; but mother, am I the only one who, on such occasions, looks abroad for that monitor which is best to be found in his own heart?"

WONDERS OF ASTRONOMY.

ASTRONOMY is the best adapted of all the sciences to impress the mind with the grandeur and immensity of creation, and the stupendous power of the Creator. Let us recount some of those truths which seem to be especially suited to produce such impressions.

Conceive yourself raised above the earth, and placed a little in advance of it, and what a sight would present itself to your view ! An immense globe, nearly twenty-five thousand miles in circumference—rushing towards you with a velocity of more than eleven hundred miles in a minute ; and, at the same time, turning its burden of continents, islands, and seas, into and from your view. What an irresistible arm must it be that sweeps that mighty mass onwards in its rapid career, and yet Astronomy has far more stupendous instances of omnipotent power to exhibit to us.

It is conjectured that millions of opaque bodies revolve around the sun, which are only occasionally visible to us, as shooting-stars, fire-balls, and aerolites. Some, perhaps revolve around the earth—indeed, one is believed to do so in three hours and twenty minutes, at a height of five thousand miles above us.

The Zodiacal light, which is only visible in our atmosphere in spring and autumn, is attributed to an extremely oblate ring of nebulous matter, revolving between the orbits of Venus and Mars. Here is a ring, many millions of miles in diameter, rotating freely in space—a stupendous wheel, truly !

The rings of Saturn offer another special instance of exquisite skill and all-sufficient power. These rings, the outermost of which is more than one hundred and seventy thousand miles across, surround and rotate about a globe, whose circumference is about two hundred and fifty thousand miles, without either clashing with one another or with the huge orb which they encircle. Let it be remembered that this orb is at the same time revolving round its axis, and hastening onwards in its orbit. What a complication of simultaneous movements is here, and yet there is no *jostling*—all proceeds calmly and safely, a beautiful piece of His workmanship who “hath stretched out the heavens by his discretion.”

Again, multiple stars—that is, stars which revolve around a common centre of gravity—offer a singular subject for our consideration. Some of these are of different colours, as red, blue, green, so that a planet revolving around one of such parti-coloured suns will have days of different hues, as “a red and a green day, for instance, alternating with a white one and with darkness ;” and this is not all, for the seasons also are affected by these *suns*, so that such a planet will have them curiously complicated. At times there will be grand summers of intense heat, such as our own globe perhaps once experienced, when a tropical vegetation covered the icy regions around the poles.

But still greater wonders await our notice, for Astronomy has taught us to regard our sun and our starry heavens as but one out of unnumbered *islands* of stars *floating*—for they too are thought to move in the regions of space—and it has even surveyed the island which we inhabit, and mapped down our position in it. Now our nearest neighbour—for as neighbours we must regard the stars in our own island—is so far distant that its light, travelling one hundred and ninety-two thousand miles in a second, requires *at the very least* nearly three years and a quarter to reach us ; whilst those stars which we can only just see with the naked eye,

sent forth the rays which render them visible nearly one hundred and forty years ago.

Let us now take the telescope, and still greater wonders will unfold themselves; patches of faint light of many shapes, globular, elliptical, spiral, resolve into millions of stars, sparkling in the far-off regions of space, forming star islands, some of whose orbs are computed to take about sixty thousand years in transmitting the ray which informs us of their existence. Truly this is astounding!

But Astronomy takes us further than this. The most powerful telescope still leaves luminous mists which it cannot resolve, and some of these are thought to be so distant, that more than TWENTY MILLIONS of years have elapsed since the rays of light quitted them which now make us cognizant, not of their present existence, but of their being in existence so many ages ago.

Further than this we cannot go—here the flagging and wearied wing of *reason* must cease to beat; but *imagination* can still continue its flight, and take us to worlds created millions of ages ago, whose light is at this moment flying onwards to our globe, to reach it for the first time at some far distant period.

Here let us pause, and in humble adoration exclaim, “When I consider Thy heavens, the work of Thy fingers, the moon and the stars which Thou hast ordained; what is man that Thou art mindful of him, and the son of man that Thou visitest him?”

EXTRACTS FROM THE JOURNAL OF AN OLD TRAVELLER.

BIRDS OF PREY—THEIR INCREDIBLE NUMBER AND VORACITY.

“IN the Tchordù desert, and indeed all along this savage high-road of the Ottoman Empire in Europe, we come rather frequently upon great companies of vultures and other birds of prey (ravenously occupied in the consumption of carrion), or upon the clean skeletons and polished bones of oxen and horses. Saving the bones, the animals that die get almost as quick a sepulture as the Turks. An over-wrought ox falls down and meekly dies; a worn-out horse rolls on his side, stretches out his legs, and goes the same way as the ox, perishing by the road-side. Let it be beef or horse-flesh, breath is no sooner out of the body than clouds of these vultures, all invisible before, and coming as it were out of empty space, from east, west, north and south, flit across the sky and meet at the banquet; and then, in an incredibly short space of time, the body is devoured and every bone polished. These hideous-looking gluttons were quite as numerous over in Asia Minor; but I think not more so than in Roumelia. On that beautiful autumnal evening, when we were entering the defile of the Koradère (between the forlorn town of Kutayah and the ancient and utterly ruined city of Nicæa), the bright sky was suddenly darkened over our heads by a flight of the obscene fowl. They had scented death afar off; in some place to us invisible, some animate creature had ceased to live, and they were going to batten on it; and, in their dark-grey coats, to play altogether the several parts of undertaker, sexton, and gravedigger. There was no conceiving whence they sprang so suddenly: one moment the blue heaven had not a speck on it, and there was not a sound in the air; the next moment the cloud was over us, and the ominous scream in our ears.”

THE PUBLIC DEBT OF THE NATION.

THE following statement of the Public Debt may prove interesting to some of our readers: caused no doubt both by prodigality as well as by necessity, we are not the less bound to its repayment. Time has been when some writers and politicians have considered the debt as an advantage, rather than as a grievance. It is useless now to discuss such exploded theories. Everybody now is aware that the remission of such a sum as twenty-eight millions would cause every tax on articles of consumption to be removed, and thus render the necessaries as well as the comforts of life more easily attainable. Such a state of thing is impossible; but it will be well for legislators to know that in the proportion they make existence in this world easy, they diminish the causes of crime, and Christianize the soul as they add to the needful comforts of the body.

A Parliamentary return in relation to the public debt gives the following particulars of its variations during the last thirty years, both as regards the amount of principal and the annual cost for the payment of interest. It will be seen that the reduction in the principal effected during that period has been only 50,000,000*l.*, or 6 per cent., but that as regards the annual charge for interest it has been 3,326,424*l.*, or nearly 11 per cent. The lowest point at which the national debt ever stood of late years was in 1834, when it had declined to 772,196,849*l.*, or to ten millions below the sum at which it now stands; the Emancipation loan in 1835 and the Irish famine loan in 1847 having far more than counterbalanced all subsequent reductions. It is to be remarked, however, that, owing to the conversion of the Three-and-a-Half per Cents., and the low rates paid upon the unfunded debt, &c., the actual cost of these obligations is now smaller than at that period. During the next seven or eight years this charge will experience a further diminution of 3,207,500*l.*, of which 600,000*l.* will take place by the Three-and-a-Quarter per Cents. becoming Three per Cents. in October 1854, while the cessation of the remainder will occur through the expiry of the Long Annuities in January 1860, for 1,293,500*l.*, and of other annuities, amounting to 1,314,000*l.*, during the intervening time. The annuity held by the Bank for 585,700*l.* does not terminate till 1867. The unfunded debt, which is included in the subjoined totals, was less in 1851 than in any other year of the series, its amount being 17,742,800*l.* In 1822 it was as high as 36,281,150*l.* :—

TOTAL DEBT.			TOTAL DEBT.		
Year.	Amount.	Cost.	Year.	Amount.	Cost.
	£.	£.		£.	£.
1822	832,811,295	31,343,551	1837	786,319,738	29,489,571
1823	826,443,364	29,978,454	1838	785,373,740	29,260,239
1824	813,521,672	30,166,421	1839	786,512,734	29,454,062
1825	806,122,467	29,197,187	1840	787,448,075	29,381,718
1826	808,367,590	29,228,967	1841	790,874,608	29,450,145
1827	805,023,742	29,417,543	1842	791,250,440	29,428,120
1828	799,979,540	29,309,052	1843	790,576,392	29,269,160
1829	796,742,482	29,156,611	1844	787,598,145	30,495,459
1830	783,096,646	29,118,859	1845	785,053,022	28,253,872
1831	781,095,234	28,341,416	1846	782,918,984	28,077,987
1832	779,796,549	28,323,752	1847	790,348,351	28,141,531
1833	779,565,783	28,522,507	1848	791,809,338	28,563,517
1834	772,196,849	28,504,096	1849	790,927,017	28,323,961
1835	787,526,466	28,514,610	1850	787,029,162	28,091,590
1836	788,398,570	29,243,599	1851	782,863,382	28,017,127

THE
HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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THE SKERRYVORE LIGHTHOUSE.



THE inhospitable rock of Skerryvore is so completely exposed to the full fury of the Atlantic Ocean, that it is consequently surrounded by an almost perpetual line of surf, which renders a landing on it always dangerous, and sometimes impossible.

The cluster of rocks, of which it is the largest, have always been a just
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cause of terror to the mariner; and although a beacon to warn him of his approach to their dangerous vicinity was almost a necessity, yet the confined and rugged surface presented such extreme difficulties to its erection, that for many years none was even attempted.

"So discouraging," says Mr. Alan Stevenson, "was the consideration of the expense, and the uncertainty of the final success of such a work, that the Commissioners of the Northern Lighthouses, after successfully completing the arduous and somewhat similar work on the Bell Rock, were induced to proceed with other operations of less magnitude, but probably, in some respects, of no less utility, and to delay the construction of the Skerryvore Lighthouse until 1838, although the Act of Parliament authorizing its erection was obtained so long ago as 1814. The first landing that my father, in the course of his annual voyage round the coast as engineer of the Northern Lighthouse Board, effected on Skerryvore was in 1804. In 1814 he visited it a second time, while accompanying a committee of the Commissioners on a tour of inspection to the lighthouses all round the coast, from the Frith of Forth to the Clyde." On this excursion they were accompanied by no less a person than Sir Walter Scott; and his entry of the visit to Skerryvore, made in his diary, will perhaps give as good an idea of its situation as we can offer:—

"Having crept upon deck," says Sir Walter, "about four in the morning, I find we are beating to windward off the Isle of Tyree, with the determination of Mr. Stevenson, that his constituents should visit a reef of rocks called Skerryvore, where he thought it would be essential to have a lighthouse. Loud remonstrances on the part of the Commissioners, who one and all declare they will subscribe to his opinion whatever it may be, rather than continue the terrible buffeting. Quiet perseverance on the part of Mr. S., and great kicking, bouncing, and squabbling upon that of the yacht, who seems to like the idea of Skerryvore as little as the Commissioners. At length, by dint of exertion, come in sight of this long ridge of rocks (chiefly under water), on which the tide breaks in a most tremendous style. There appear a few low broad rocks at one end of the reef, which is about a mile in length. These are never entirely under water, though the surf dashes over them. To go through all the forms, Hamilton, Duff, and I resolve to land upon these rocks, in company with Mr. Stevenson. Pull through a very heavy swell with great difficulty, and approach a tremendous surf, dashing over black pointed rocks. Our rowers, however, get the boat into a quiet creek between two rocks, where we contrive to land, well wetted. I saw nothing remarkable in my way excepting several seals, which we might have shot; but in the doubtful circumstances of the landing, we did not care to bring guns. We took possession of the rock in the name of the Commissioners, and generously bestowed our own great names on its crags and creeks. The rock was carefully measured by Mr. S. It will be a most desolate position for a lighthouse—the Bell Rock and Eddystone a joke to it, for the nearest land is the wild island of Tyree, at fourteen miles distance."

It may also be added, that it is twenty miles from Iona, and fifty-three from Mallinhead in the county of Donegal, Ireland. The principal rock is about fifty miles from the nearest point of mainland of Scotland. Thus lying in an irregular semicircular sea, enclosed by the southern extremity of the Hebrides, the rugged shores of Argyllshire, and the northern coast of Ireland, but open on the other to the Atlantic. On this important spot was a lighthouse constructed by the almost incredible exertions of Mr.

Alan Stevenson; and we feel assured that a history of the obstacles and dangers he surmounted in his perilous undertaking will not fail to interest every one who possesses a true regard for the welfare of those who "go down to the deep in ships, and occupy their business in great waters."

Most grateful do we feel to Mr. Alan Stevenson for the valuable history he has given us of this his praiseworthy undertaking, of parts of which, we gratefully avail ourselves in the following details of the work. The list of shipwrecks which occurred at this spot, between the years 1790 and 1844, afford melancholy proof of the necessity of a beacon on that spot; and it is a well-known fact, that the fishermen of Tyree were in the constant habit of visiting the Skerryvore after gales, in quest of wrecks and their produce, in finding which they were rarely unsuccessful; and the shores of the neighbouring islands were frequently strewn with drift-wreck, in such a manner as to plainly indicate the destruction that had taken place on the shores round Skerryvore.

The principal rocks of the group are called Boinshly, Bo-rhua, and Skerryvore. The name of the first is derived from the Gaelic, signifying bottom, and deceitful. The swell around this seems to draw a boat as by a kind of suction on the rock; and, sometimes, such accidents cannot be prevented by the greatest caution. Sudden lifts of the sea are common even during an apparent calm, in all the more exposed parts of the coast; and any one much accustomed to the use of boats on these shores, must have experienced the hazard of such unexpected risings of the sea, more especially near shelving rocks, or in rapid tideways. The sea breaks on the rock with tremendous violence, and after or before a heavy gale of wind, rises to a prodigious height in a column or jet, resembling, at a distance, the play of a fountain. So high, indeed, does the sea rise on this shoal after heavy gales, that it often quite obscures the larger and more distant object of the rock and tower of Skerryvore, even when viewed from the top of Ben Hynish, near Tyree. The wooden barrack erected on the Skerryvore for the use of the workmen during the progress of the operations, although about sixty feet in height, was often lost sight of at Tyree, by the uprising of the sea on Boinshly, and could be seen only during the calm that intervenes between returning waves.

The name of Skerryvore signifies "great rock," and with the fragments into which it is divided it extends over a surface of a mile. The rock upon which the tower stands has a surface of about 280 feet square. It is extremely irregular, and intersected with gullies; one of these terminates in a hollow chamber under the sea, which threw up a jet of water about twenty feet high, resembling in appearance the Geyser of Iceland, and accompanied by a loud sound like the snorting of some sea-monster. "The effect of this marine jet d'eau," says Mr. Stevenson, "was at times extremely beautiful, the water being so much broken as to form a snow-white and opaque pillar, surrounded by a fine vapour, in which, during sunshine, beautiful rainbows were observed." But its beauties by no means reconciled the workmen to the inconvenience and discomfort of being constantly drenched, whenever the work carried them near it, and it was filled up. In addition to its shattered and disjointed appearance, the Skerryvore rock presents a striking example of the action of the sea. The surface is so glassy, as to have proved during the whole of the work a serious obstacle and hinderance to the operations. The landings were often made in very bad weather, and there was considerable danger to be encountered in springing ashore from a boat, in a heavy surf, upon an irregular mass of

rocks as smooth and slippery as ice. The workmen were so sorely tried, that many inconvenient accidents occurred from falls. It was after one of these trials of patience that the foreman of the masons was heard, very graphically, to describe a landing on the rock as "like climbing up the side of a bottle."

Instead of a weather-beaten rock, whitened by the dung of sea-fowls, and with marine crustacea adhering to it, the surface of the Skerryvore is smoothly polished by the action of the waves; every projecting angle or point is worn down, and the whole presents more the appearance of dark-coloured glass than a reef of gneiss-rock. Excepting in the more sheltered crevices, no marine crustacea find shelter; but different kinds of sea-plants grow upon it in great abundance, at and below low-water mark.

A pier and workyard were formed at Tyree, so desolate an island that it was not only necessary to build houses for the reception of the workmen, but to import provisions and fuel. The latter was so scarce, that the inhabitants were compelled to procure it from the Island of Mull, nearly thirty miles distant. Stone was procured from quarries opened for the purpose at Tyree, and the summer of 1837 was chiefly occupied at that place in preparing a wharf, composed of rough blocks, from the quarry, which were dropped promiscuously into the sea. From the extent of the shoal-ground round the Skerryvore, and the want of good harbours in the neighbourhood, it was foreseen at the outset that the operation of landing about six thousand tons of materials on the rock could not be accomplished by means of sailing vessels, with that degree of certainty and regularity which the short-working season of the climate affords, and a steam-tender, called the *Pharos*, was accordingly employed for the purpose, and moored as near to the rock as was consistent with safety. On the 28th of June, 1838, Mr. Stevenson made his first landing on the rock. "We reached," he says, "our moorings at nine this morning, but there was so much surf that a landing could not be attempted till mid-day, when I went with Mr. Macarieh in the boat, and with some difficulty contrived to spring on the rock, after which the boat returned to the vessel for the rest of the party. While left alone on this sea-beaten rock, on which I had landed with so much difficulty, and as I watched the waves, of which every succeeding one rose higher than the last, the idea was for a few moments forcibly impressed upon my mind that it might probably be found impracticable to remove me from the rock, and I could not avoid indulging in those unaccountable fancies which lead men to speculate with something like pleasure on the horrors of their seemingly impending fate. These reflections were rendered the more impressive by the thought of how many human beings must have perished on the spot. A consideration, however, of the rarity of an opportunity for landing on the rock, and the necessary shortness of our stay, soon recalled me to my duty; and before the boat returned with a few workmen, I had projected some arrangements as to the first step to be taken in erecting a temporary wooden barrack for the men." Four hours were then passed in chalking out and marking on the rock with paint the sites of the lighthouse tower and the barrack, and the position for cranes and other necessary works. During this time, innumerable sea-fowl hovered round, and many seals were driven away from their favourite haunts. "I was amazed," says Mr. Stevenson, "to find that any animal should select as its place of repose a rock in the Atlantic, intersected by deep gullies which are never dry, with only one pinnacle raised about sixteen feet above the sea, while the greater part is only five feet above

high water. Yet in a crevice of this rock I found an egg resting on a few downy feathers, which the first wave must have infallibly washed away!"

After this day's work, they sailed for, but did not reach the workyard until nine the next morning. The first good day's work on the rock was on the 7th of August, when the materials for the barrack were landed. A short trial was made of boring one of the holes for the stancheons, by which the timbers of the barracks were to be secured to the rock, which was so hard, that with a jumper of three inches and a-half in diameter, it took an hour to bore a hole of about three inches in depth. The commencement of the operations involved much labour and considerable discomfort; but in spite of all the privations on the rock, the men exchanged it unwillingly for the shelter of the tender at night, for it rolled so heavily as to leave few free from a sea-sickness which prevented them from the sleep they so much needed after the toils of the day. On leaving at night, too, the greatest difficulty was encountered in boarding the Pharos with the two boats, containing upwards of thirty-two persons, as the vessel rolled so heavily that there was great danger of the boats being thrown right on her deck.

By degrees the wooden building advanced; a forge was erected with a wooden shed around it to protect the smith and his fire from the wind and the spray of the sea. In this month a heavy storm compelled them at two in the morning to set sail from this position near the rock, as there was every probability that the vessel would be otherwise dashed to pieces on the rock from the heavy seas that encircled them. "A more anxious night," says Mr. Stevenson, "I never passed, there being upwards of thirty people on board, with the prospect, during several hours, of the vessel striking every minute." After many hours of peril and anxiety, in a storm of rain, wind, and spray, they at length succeeded in setting foot again on the wild shores of Tyree, but it was not for many days possible to again effect a landing on the rock. The mode of life while moored off the rock was somewhat singular. At four o'clock in the morning work was commenced, and at eight the boat from the Pharos arrived with large pitchers of tea, bags of biscuit, and canteens of beef. Breakfast was despatched in half-an-hour, and work again resumed until two o'clock, which hour brought the dinner, differing in its materials from breakfast only in the addition of a thick pottage of vegetables, and the substitution of beer for tea. Dinner occupied no longer time than breakfast, and, like it, was succeeded by another season of toil, which lasted until eight, and sometimes until nine o'clock, when it was so dark that we could scarcely scramble to the boats, and were often glad to avail ourselves of all the assistance we could obtain from an occasional flash of a lantern, and from following the voices. Once on the deck of the little tender, and the boats twisted in, the materials of breakfast were again produced under the name of supper; but the heaving of the vessel damped the animation which attended the meals on the rock, and destroyed the appetite of the men, who, with few exceptions, were so little seaworthy as to prefer messing on the rock, even during rain, to facing the closeness of the fore-castle. "As I generally," continues Mr. Stevenson, "retired to the cabin to write up my notes, when that was practicable, and to wait the arrival of my own refection, I was sometimes considerably amused by the regularity with which the men chose their mess-masters, and the desire which some displayed for the important duties of carving and distributing the rations. Even the short time that could be snatched from the half-hour's interval at dinner was generally devoted to a nap, and the amount of hard labour and long exposure to the sun, which could hardly be reckoned at less than sixteen hours a-day, prevented much

conversation during supper; yet, in many, the love of controversy is so deeply rooted, that I have often from my small cabin overheard the political topics of the day with regard to Church and State very gravely discussed on deck over a pipe of tobacco. Perhaps the great heat below, where upwards of twenty people were confined, might in some measure account for this wakefulness on board the tender."

During the stay at the rock, while the barrack was building, a shoal of small fish made their appearance; and from the pale blue silky membranes or sails which wafted them before a gentle breeze, they were thought by Mr. Stevenson to be a fleet of some species of *Nautilus*: they literally covered the face of the water as far as could be seen. One of these he sent in a phial to Professor Fleming, who gives it the name of *Medusa velilla*, and says it is noticed by Dr. Walker and Mr. Pennant as a native of Scotland.

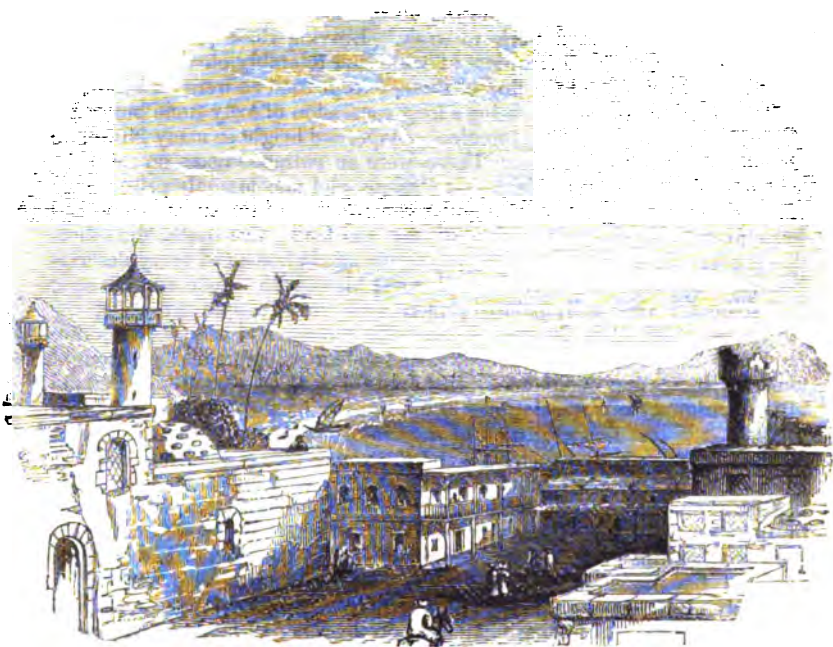
Between this time and the 11th day of September, when the work at the rock was closed for the season, many stormy days and nights sadly hindered and distressed the workmen. More than once in the month of August the tender was compelled to seek refuge in Tyree; and on the last day's landing at the rock, the boats narrowly escaped swamping. By this time the greater part of the barrack was completed; but the fixing of the habitable part was deferred, until the erection should have stood the test of a winter's trial. To the upper part of the wooden building a water-tight chest was lashed, containing biscuits and a cask of water, to serve as a means of support to any unfortunate shipwrecked mariner who might chance to reach the rock. Mr. Stevenson also caused some spars to be lashed at various levels, by way of testing the effects of the sea. Before leaving the rock, he climbed to the top of the pyramid formed by the wooden erection, from which he got a bird's-eye view of the various shoals which the stormy state of the sea so well disclosed; and the elevation above the work itself so much decreased the apparent elevation of the reef, that it seemed as if each successive wave must sweep right over its surface and carry them before it into the wide Atlantic. So loud was the roaring of the wind among the timbers of the barrack, and so hoarse the clamour of the waves, that he could not hear the voices of the men below, and but faintly caught the sharp tinkling of their hammers on the rock. "When," says Mr. Stevenson, "I looked back upon the works of the season, upon our difficulties, our dangers, and the small result of our exertions—for we had only been a hundred and sixty-five hours at work between the 7th of August and the 11th of September—I could see that, in good truth, there were many difficulties before us; but there was also much cause for thankfulness, in the many escapes from peril we had made."

SEA-COAST AND SHORES OF CILICIA.—No. VII.

ACRE, OR PTOLEMAIS, THE ANCIENT ACCHO.

"AND when we had finished our course, we came to Ptolemais." (Acts xxi. 7.) This was precisely our case; we embarked from Tyre soon after sunrise, and by 4 P.M. the same day were safely landed at St. Jean d'Acre. The coast between Acre and Tyre varied much from what we had been accustomed to heretofore; the fine, stately mountains of the Lebanon we had now left behind us, and in their place appeared the low and mostly barren range of sandy hills, which run parallel with the sea-shore from Acre to close upon Ashkelon. Mulberry plantations, which help considerably to

heighten the beauty of a landscape, no longer cheered the eye with the pleasant green colour of their foliage. Wild plants, and even tall grass, were less abundant: the many small capes jutting out at angles into the sea



ACRE, WITH CARMEL IN THE DISTANCE.

were usually surmounted with a few hardy palm-trees; and beyond this there was nothing save a dreary waste of sand and black furze brushwood, on whose tasteless stalks meagre-looking cattle and goats were browsing. Acre was included in the portion of the tribe of Asher (Judges i. 31), when the Asherites dwelt amongst the inhabitants of the land, being unable to drive them out. It is presumed that Christianity was here planted at a very early period. The first Ptolemy, to whose lot Acre fell, much enlarged the city and called it after himself, hence the name of Ptolemais. We landed at the northern gates of the city, close under the ramparts of a solid fortress, parts of which were being rapidly repaired and reconstructed, the whole city and fortifications having suffered immense damage from the bombardment of the allied fleets in 1840, when almost the first shot fired penetrated into and ignited the powder magazines, which blew up with a terrible explosion; passing the sentry, whose duty it is to inspect the native passports of all travellers, we entered at once upon the town. A large open square, with a fountain in the centre, first attracts notice; this fountain is a kind of corn exchange amongst the natives. Groups of peasants are congregated round cunning-faced merchants, angrily expostulating or else supplicating for money due to them. These peasants cultivate the grounds of the wealthier Turkish inhabitants, receiving in lieu of money a certain number of measures of wheat, and this wheat they gladly dispose of to

those engaged in traffic. There is no doubt their gain is very trifling, the price given them being considerably below what the factors pass it for to the merchants, but the poor men have no help for this; money, in any shape or in any sum, is far more welcome to them, and even this they have much difficulty in squeezing from the unconscionable factors, who put them off from day to day and week to week. Leaving these people, we enter upon a pretty regular succession of wide and tolerably clean streets; the houses on either side of the first of these, except such as were shaken down by the explosion of powder, being a long succession of lofty stone buildings, for all the world resembling in colour, shape, and height so many Newgates as viewed from the outside. There were no entrance doors on this side, which made it look very bleak and strange, and uncommonly prison-like; this was accounted for by the singular construction of the street, which had been formed by two rows of houses, the one facing due north, the others due south. After this street, the aspect changed: houses of every description and size, some scarcely finished, some black with smoke and old age, and some few very gaily painted; there were many people thronging the streets, and countless donkeys laden with mortar and stones and other requisites for building; all this betokened an increasing population, brought about by increasing commerce. Hundreds of families that lived in inland villages, almost in a starving condition, hearing of the influx of shipping, occasioned by the free admission of corn into England, and the consequent demand for labour, sent their sons and the young men of their household to procure work, which might enable them to buy corn and other necessaries against the winter season, whilst many relinquished all ideas of returning to their homes and permanently abode at Acre. We occasionally encountered groups of whole families of strangers, the women and children mounted on donkeys, the men barefooted and besmeared with dust, anxiously inquiring of those they met in the street how wheat was selling, and of the chances of finding immediate occupation and labour. Amongst these were some old men who might have passed for some of the patriarchs, with their long white beards hanging down to their chests: these people all come to seek for bread, and each successive party we met, made us exclaim, here come the sons of Jacob into the land of Egypt. No doubt they must have represented just such a picture in costume, in outfit, in complexion, and perhaps even in profile, as many of those that we now passed. "Now when Jacob saw that there was corn in Egypt, Jacob said unto his sons, Why do ye look one upon another? And he said, Behold I have heard that there is corn in Egypt, get you down thither and buy for us from thence, that we may live and not die." With very little alteration, these doubtless were the words of many an old grandsire in the villages in the interior, where the harvest had been blighted, and where the poor people for months together had subsisted upon herbs unknown even to the wild boar, who would else have ferreted them up.

The bazaars were similar to those of most towns in Turkey, only wider and kept infinitely cleaner. Emerging from these, we passed into the Christian and Jewish quarter, and there dismounting found a welcome at an impoverished little inn, sole shelter in all Acre for the wayfarer; from the top of this inn, sitting under an umbrella, we sketched the view which is here inserted. Immediately below us were the flat roofs and terraces of the houses of some of the more opulent natives; some of these terraces—so as to afford privacy to the ladies of the harem, and to enable them to enjoy exercise and the prospect, and inhale the pleasant sea-breeze, at the same time that they

were effectually excluded from vulgar gaze—had high balustrades built round the terraces, the colonnades of which alone were of solid masonry, the intervening spaces being filled up with cylindric tiles, which, besides admitting the air to circulate freely, enabled such as applied the eye close to them to obtain an uninterrupted view of surrounding objects, without being themselves seen. Beyond these, to our right, was the battered remnants of a minaret, which from its very peculiar position must have afforded an excellent mark for the gunners of the ships of war to direct their aim, as it faces the bay of Caiphas where the whole fleet was at anchor. In the centre is the highway, at the extreme end of which is a low range of inferior houses, small taverns, and coffee-shops, built up against the buttresses of the fort; to the left—unique specimen of modern architecture—is the handsome military house erected by Ibrahim Pasha the late Viceroy of Egypt, and which, singularly enough, though in a very exposed position, escaped being injured by the bombshells and balls of the English ships of war. The windows and doors of this building are large and well adapted to make the apartments airy and healthy; and a pleasant balcony facing the sea, which is covered in with trellis-work thickly shaded by vines and other creepers, affords a pleasant retreat from the heat of the mid-day's sun to the officers and soldiers that are not actually on guard. Beyond this, we catch a glimpse of the ramparts, and beyond the ramparts again the pleasant blue, cool-looking waves of the Mediterranean. The masts of a shipwrecked vessel protrude high above the ramparts, and a small Arab boat is steering for the port, coming in all probability from the small town of Caipha, situated at the base of the distant Carmel, whose peculiar-shaped peak cannot fail to attract the notice and admiration of the stranger. To the left is a long, low range of hills, barren and desolate looking, and the interval between their base and the sea-shore is filled up with sand-hillocks and groups of elegant tall palm trees, the fruit from which is much sought after by the natives in the season. Along the pleasant sandy beach, as far as the eye can reach, we trace the high road which leads from Acre to Mount Carmel. One or two small rivers here flow into the sea, and with the exception of a solitary passenger who now and then urges his way forward, there is nothing to be seen, and the mid-day sun throws a glare over the picture which makes our eyes water again with weakness. To the extreme left is a large caravansary for the accommodation of travellers, a hammam or Turkish vapour bath, and a couple of minarets, and behind these again, excluded from view by nearer objects, the denser portion of the houses and shops constituting the city. Acre is now said to contain 18,000 inhabitants, 6,000 of whom are Christians of the Greek church, about 2,000 Jews, 2,000 Copts from Egypt, a few Armenians and a sprinkling of Catholics, and the remainder Moslems of the Ottoman empire. In no part of Turkey is the European stranger treated with greater respect and civility than at Acre, the natives being in perpetual alarm, lest any insult or provocation should chance to bring upon them so heavy a visitation as that of 1840. Few climates in Syria or Palestine are more unhealthy than that of Acre, and yet its position and appearance would argue much to the contrary; the fault must be local, and lie in the bad construction of the streets, or from some negligence in purifying the environs; the slaughter-houses and butchers' shops are a perfect nuisance, as the heat is so intense within the walls of the fort, that meat killed in the morning is almost in a putrifying state before mid-day. Had the Turkish Government the good sense to

banish these shops, and oblige them to remove to the outside of the town, close to the water-side, where offal and such-like loathsome matter might be buried in the sea-sand, then one great cause of illness would be got rid of. A second is the tanners' pits and shops, sometimes situated in the very heart of much-frequented thoroughfares. So little does the Government heed that prop of its best interests, the welfare of the people. St. Paul, we are told, remained only one day at Ptolemais; if Ptolemais of that day had such a bad notoriety as the Acre of this day, the Apostle risked his health and his life by even this short stay. Fever was raging all around, and that of such a pernicious character, that many strangers who, like ourselves, had casually called in on their way to other parts of the coast, caught the infection and died during the night, or else carried the seeds away with them only to reach home or their destinations and there succumb to its pernicious effects: never had it raged with greater virulence, and there was barely a family but what mourned the loss of one or more dear to them. Many of the residents were panic-struck and fled in consternation to the neighbouring villages and towns. Above, the sky was serene and cloudless; below, birds were singing, flowers blossoming, trees yielding luxurious crops of fruits, the sea cool and clear as a mirror; and as we witnessed all these, and sat on the house-top in the cool of the evening to watch the sun dip his fiery orb into the watery horizon, it seemed hardly credible that when everything looked so bright and glorious, and the very air we breathed seemed laden with balmy health, direful pestilence should be hovering about. If any doubts, however, remained, these were speedily removed, for the last ray of the setting sun had barely disappeared beneath the wave, before a mournful wail burst forth from a neighbouring house, and the death-cry resounded for one more soul that had taken its flight from earth.

Death made fearful havoc—hundreds were swept away in a week, but still fresh hundreds came from the hills and the interior; vessels from foreign ports arrived, and Acre exported more corn that year than she had ever done in the memory of the oldest inhabitant. Of the old ruins of Accho, or Ptolemais, small fragments are to be met with here and there, half-buried pillars and broken-up tombs and cornices; but of a truth the weather was so hot, and sickness so prevalent, that we had small inclination to remain one hour longer than the time fixed for our departure.

A VISIT TO AUSTRALIA AND ITS GOLD REGIONS.—No. XV.

LETTERS like those in the preceding article might be selected by the hundred, but those specimens will suffice. They are more descriptively valuable than if they had been written for publication, inasmuch as they convey an idea not only of the general results of the discovery, but also show the impression produced upon individual intelligent minds. We shall present to our readers another, and a somewhat lengthy extract, written by a gentleman who established himself at the diggings for the purpose of purchasing gold, which will enable us to form a conception of the state of society there, and of the general features of a "Life at the Diggings."

"To forward our views we rode that afternoon into Geelong, to procure various little necessities for our journey, and thus provided, set out the following morning, mounted on good horses and carrying our baggage with

us. The day was hot,—for you must remember that our November ranks with May in Europe, though more like April in its very changeable character; there was, however, a pleasant sea-breeze, which prevented the heat being oppressive, and I enjoyed the ride through a pretty park-like country, just now verdant with the young grass, but for the most part rather flat, so that on starting we could see the point of our destination in Mount Buninyong. We met with no particular adventure, the chief objects of interest being the various parties going to and coming from the Ballarat diggings, whither we were bound, great numbers being encamped in a forest about mid-way, and forming, with their temporary, gipsy-like tents, baggage-draws, and bush fires, some picturesque scenes. . . . After an early breakfast at the little inn where we spent the night, we rode seven miles through a rugged forest-road to Ballarat, till within these last few months a part almost unknown, and simply forming a portion of a sheep run occupied by Mr. Y———. The hills, of very moderate height, rise from the valley with little hollows, (or gullies as they are called,) between them. Here the discovery of gold caused an accumulation of 8,000 or 10,000 people in a few weeks; and although by the time I arrived, the greater part of these had gone away again, there were still enough left to form a very curious scene, many hundreds of tents, of all sorts and sizes, being scattered about the valley in the most irregular manner, while others, including several stores, were clustered together on one particular hill, called Golden Point, the lower part of which has been apturned and ransacked for the precious metal it contains. At a little distance this hill looks like a vast gravel pit, consisting of fine red gravel, such as you would choose when sifted, for garden walks. On examining the ground more closely, the excavations are found to consist of square holes, all sizes and depths, from three or four feet to twenty or thirty feet. The strata are very variable and uncertain; but generally this bed of gravel lies upon a bed of whitish clay, and the gold is for the most part found in the lower part of this gravel, which is generally so firmly bound together, that it has become a hard conglomerate, which can only be broken with hammers.

“The gold is usually found in small, rounded, and evidently water-worn pieces, from the size of a pin’s head to that of peas, but now and then of much larger size. The great bulk, however, is small, and scarcely perceptible to the eye among the gravel which is taken down to the stream and washed in tin dishes and cradles. Among the rough, unshaven, dirty-looking men who were at work, I every now and then discovered some friend, who could hardly be recognised in his bush attire, consisting generally of a blue or scarlet woollen shirt, worn outside *à-la-blaue*, with a leather belt round the waist, a straw or ‘wide-awake’ hat, and trousers, and thick boots of coarse materials, and all of one colour, viz., that of the clay and mud with which they are covered. Mr. W. was one of those who thus masqueraded, and addressed me without my knowing him. Among others of my acquaintance with whom I met, were lawyers, doctors, tradesmen, in fact, people of all sorts; but I noticed that generally the parties of labouring men were doing best. The success is very variable indeed; in proof of which one gentleman told me that he and his party had been working hard for six weeks, and had sunk thirteen deep holes, but got nothing. On leaving one of their holes, as a failure, another party took possession of it, and in two or three days took out 720*l.* worth of gold. . . . For some time past a new district, called Mount Alexander, had been attracting a good deal of attention, and a great many had pre-

ceeded thither from Ballarat. From all I had heard, I concluded that this would be the best place for our object of purchasing gold, and therefore we proceeded there, after spending three days at Ballarat. One of these days was Sunday. It was a very wet morning, and probably owing to this no clergyman visited us, otherwise there is generally service. The place was very quiet and orderly, no work being done, and most men being very glad of a day of rest, after their week of toil, for gold digging is no easy occupation.

"It was on the afternoon of the 11th of November that we strapped our baggage on to our horses, wound the leather ropes round their necks, and started for Mount Alexander, having the greater part of our money still with us. The direct distance is fifty miles, but we were too late to make a single ride of it, and slept at the house of Captain S——. Leaving Captain S——'s after breakfast, we rode at a moderate pace, thinking that we had plenty of time; but in consequence of our horses being low in condition, and losing our way, we were in our saddles till some time after dark. Our first business, on arriving at Mount Alexander, was to inquire for the tent of the Government Commission, where we deposited our money, as we had previously done at Ballarat, for the sake of safety. I am slightly acquainted with the Commissioner, who was very polite, gave me some information, and regretted that, owing to their small tent being full, they could not give us accommodation for the night. We therefore continued our ride for about three miles, to where the main diggings and the largest collection of tents were, in hopes of finding some place for rest and some grass for our horses. . . A friend with whom I happened to fall in, allowed me to creep into his tent and having obtained the loan of a blanket, I rolled myself up in it, munched a biscuit which I had in my pocket, and then lay down on the floor and soon fell asleep, thinking how many, with feather beds and pillows, would sleep less soundly.

"After an early breakfast, I rode slowly up the valley, visiting several gold-washers on my way, and buying a little gold. These diggings are of a very different character to those at Ballarat, being much more widely distributed; consequently, the tents of the diggers are scattered up and down the various valleys over a considerable distance, more or less thickly, according to the richness of the locality. After looking about us and making some inquiry, we decided upon pitching a tent (if we could get one) close to the Commissioner's, where I could carry on the business of gold-buying. Meanwhile we made a few purchases, and at night got accommodation in the tent of an acquaintance. No tent was to be bought or borrowed, and therefore, as there was no time to lose, we set about making one. We got the loan of a tarpauling, and then set to work, dug holes, cut down trees, stripped some bark off others, in which, by-the-by, a black fellow helped us, and by night had our tent pretty well secured. You would have laughed, or perhaps stared with astonishment, if you had seen me one minute chopping away a tree, or carrying it on my shoulder, and the next sitting on a log, weighing gold, and counting out the bank notes, for we did not lose any opportunity of buying when it occurred.

"The next day was Saturday (the 15th).—We were again early at work. Did more to our tent, and bought more gold. . . . My furniture consists of a piece of bark stripped from a gum-tree, and nailed to four bits of rough wood in the form of a table (on which, moreover, I am now writing), on which I weigh my gold; my wardrobe, what I brought on horseback, and a pair of blankets. On Sunday, when I was as glad of a

day of rest as any of the diggers, I read the Church service to myself, and only went out a little in the afternoon, when the weather cleared up.

"*Monday, 17th.*—I was busy all day long buying gold, writing letters for the post, and in the evening making up my bags of gold for the Government escort, which was to leave Melbourne the following morning. I found I had purchased altogether just six hundred ounces, for which I paid on an average about fifty-seven shillings per ounce.

"The following morning presented a bustling and picturesque scene, when the escort was preparing to start. Previously to this week only two lots had been sent down from here by Government, and each time on horseback; but the success of the diggers had so increased, that there was now gold to the amount of 25,000*l.*, and a chaise-cart was necessary. The cavalcade consisted of two mounted troopers ahead, then the chaise-cart, driven by an officer with an armed guard beside him, and six more troopers on horseback behind, four of them, I think, of the native black police. The pretty scene alluded to was when all this was preparing. The hilly, open forest land is in itself park-like, and on a rising ground the Commissioner's establishment is placed, consisting of several tents and two or three gungas, or bark-huts, made by the native police, after their own fashion. The troopers' horses were standing about ready saddled, and the men themselves, both black and white, and in various costumes, gave life to the picture, while of course some interest was added by the knowledge of the valuable load contained in the cart, and the rugged forest country through which it had to travel. I lost sight of the train as it wound among the trees, and in due time heard that it had safely reached its destination. . . My occupation during the remainder of the week was very uniform, but I occasionally took a ride or walk among the gold-finders, but did not like to leave my tent for long at a time, as my companion had now left me. About this part there are two kinds of diggings; surface digging, which is simply skimming off a thin layer of gravel from the surface of some of the hills, to the depth of a few inches, when a bed of gravel is reached, and hole-digging, which is digging down in hollow places in the streams, and between hills, and searching the fissures which exist between the slate-rock there found. Both kinds have proved very profitable to many. As an extreme case, three men, last week, got above 30 lbs. weight of gold in less than two days, out of a little patch of gravel of a few feet square, and not more than six inches deep. And, as an extreme case of hole-digging, I heard to-day of four men who took seven pint pots of gold out of a hole, or fissure, on Tuesday last. What a pint pannikin of gold weighs, I do not know, but, at a rough guess, I should think this prize would be worth not less than 3,000*l.* Of course these are but two extraordinary cases among some thousands of diggers; but, nevertheless, the great number of persons who are getting rich in this district is almost incredible. It is really most absurd to see rough, illiterate labourers come with their ounces and pounds of gold tied up in a bit of dirty rag, and sometimes to see them turn out of their dirty pockets, among bits of tobacco, bread, &c., twenty or thirty shillings-worth of the loose grains that have escaped the fragile package. Most of them bring it in the little round wooden matchboxes.

"The main valley of the diggers, which extends to where I am located, for about four miles, has an extraordinary aspect by day, from the number of tents and diggers scattered throughout it; and still more so by night, when the multitude of fires would lead a person to suppose that he was looking down upon a large town, till, on near approach, he perceives that

each fire has its own little group of men clustered round it in front of their tent, some of them cooking their supper, some smoking their pipes, and not a few singing songs; each group presenting him, as he rides along, with a series of tableaux worthy of the pencil of a Teniers.

"The following Sunday was a finer day than the last. In the morning I took my nag, which had fared but badly on his tether lately, about a mile away, where there was some good feed; and while he enjoyed a couple of hours of sweet grass, I sat upon a tree, and united with those who, at a distance, were engaged in the services of our Church. In the afternoon a clergyman read prayers, and preached a sermon in the open ground, near the Commissioner's tent, where a congregation of about one hundred and fifty mustered together in a circle round him, joining in the responses, and singing the hundredth Psalm very well. Our service had just closed when the escort arrived from Melbourne. I was sorry to see it thus travelling on Sunday, but was told it was unavoidable this time, and that henceforward it would always leave on Tuesday and return on Saturday."



GOLD DIGGERS CROSSING THE BLUE MOUNTAINS.

Although the details thus given refer only to one locality, they will nevertheless serve to illustrate the general character and features of all the diggings. Since the period to which they more especially refer, a large number of other places have been discovered where gold is to be procured with equal ease, and in equal abundance, and almost every ship that arrives bears its rich freight of the precious metal to our shores, with the intelligence that there is no falling off in the produce of the mines, and that the emigration from the home country cannot be too great to supply the gaps left in the general occupations of the colonies, or to fill up the measure of profitable labour at the mines. The following tabular view of the quantities of gold obtained up to the 20th March of last year (so far as could be ascertained),

affords us an accurate idea of the extent to which the search had been prosecuted, and of the success which had attended it:—

	Ounces.	Value.
Mount Alexander - - - - -	208,000	£864,000
Gipps' Land - - - - -	15,000	38,000
Albany, to Feb. 20 - - - - -	4,000	12,000
Ballarat, to Feb. 21. - - - - -	106,000	315,000
Moruch } to March 10. - - - - -	420,000	1,620,000
Araluar }		
Batesford, to March 5 - - - - -	19,000	48,000
Anderson's Creek, to Jan. 31 - - - - -	4,500	14,000
Geelong, to March 3 - - - - -	7,700	23,700
Yallock, to Feb. 10 - - - - -	5,100	15,900
Hopkins' River, to March 1 - - - - -	23,000	82,500
Mount Wellington - - - - -	29,856	89,650
Mount Disappointment, to March 10 - - - - -	13,000	41,550
Ferry Creek, to Feb. 16 - - - - -	12,000	38,500
Turon - - - - -	41,000	130,300
Bungonia - - - - -	16,000	48,500
Pepper's Creek, to Feb. 26 - - - - -	3,550	14,800
Bell's Creek, to March 3 - - - - -	7,500	41,000
Major's Creek, to Feb. 13. - - - - -	4,000	12,300
Tuena, to Feb. 16 - - - - -	3,500	10,900
Rativa Hill, to Feb. 25 - - - - -	700	2,200
Ophir, to March 1 - - - - -	1,800	2,500
Braidwood, to Feb. 26 - - - - -	10,000	31,000
River Plenty, to March 1 - - - - -	6,800	21,950
Small Diggings, to Feb. 26 - - - - -	17,000	51,500
	<hr/> 984,006	<hr/> £3,567,550

So that in the course of ten months from the first working, with all the disadvantages of unskilled labour, and imperfect machinery and apparatus, the gold diggers had procured, in round numbers, about forty tons of gold, of the value of considerably upwards of three millions and a half sterling! When Columbus discovered the New World, it was calculated that about thirty-three millions in value of gold and silver were in possession of the civilized nations of Europe, which quantity was augmented during the three centuries in which the working of the mines there was uninterrupted, to upwards of three hundred millions, giving an average annual produce of less than a million sterling per annum.

It is calculated that the gold field of Australia is about one thousand miles in length, by three or four hundred in breadth, only a very small portion of which has yet been even explored. Should the yield continue to increase with the same rapidity it has manifested up to this time, we may expect that it will produce in thirty or forty years as much gold as America produced in three hundred, and even should it simply maintain the present supply, it will produce the same quantity in less than one-third of the time.

What effect this enormous quantity of the precious metal may be expected to produce, is simply a matter of speculation; but without entering very deeply into political economy, it will be evident that, as the precious metals are not consumable in the politico-economic sense of the term, the diggers are therefore non-producers, and consequently consumable articles will rise in price, on account of the smaller number of hands engaged in their production, as compared with the total population. This result is already

apparent in Australia, although it may be many years before it becomes apparent in other countries. Besides this, however, the mere abundance of gold, as compared with other articles of commerce, will naturally tend to raise the price of the latter as compared with the former, thus effecting a real diminution in the value of gold. No disturbing effect, however, will apparently be produced as regards the banking interests, inasmuch as bank notes only represent a certain fixed quantity of gold, and a depreciation of the purchasing power of the latter will be partaken of in an equal degree by the former, and there will consequently be an invariable equilibrium between the two. Those alarmists, therefore, who have been inclined to predicate the ultimate ruin of the Bank of England, because it is compelled to buy gold of all comers at 3*l.* 17*s.* 10½*d.* per oz., may dismiss their fears, when they remember that the price is paid in bank notes, the representative value of which will be exactly equal to the current value of the gold for which they were issued.

Dismissing, however, the subject of the effects of the discovery as regards the exchanges, let us turn our attention to its probable results in another point of view. The two richest gold deposits ever known on the globe are in possession of the two most polished, free, and civilized nations the world ever saw—England and the United States; and whilst California will draw together a mighty Anglo-Saxon population on the eastern side of the North Pacific, Australia will be attracting to its fertile shores an equally mighty host on the west side of the South Pacific. A magnificent ocean, covering more than one-third the surface of the globe, and whose very name proclaims its fitness for the most extensive navigation, rolls its waters between the two. On the opposite side to California, lie the immense country of China and the rich isles of Japan, whose inhabitants have hitherto held aloof from intercourse with their fellow-men. In immediate proximity to Australia lies an enormous group of islands, the two largest of which are scarce known to the world, but all of which teem with the richest and most valuable products of the vegetable kingdom. These are at present in the sole occupation of hordes of savages and pirates, incapable of appreciating their beauty or their utility. These call to Australia, when itself shall be more fully populated, to undertake the task of infusing, if possible, civilization into these barbarians; and the proximity of Australia to our East Indian possessions would indicate a coöperation in still further developing the resources of those rich countries, until we shall have reached, not for conquest, but for commercial and civilizing purposes, the confines of Thibet.

These are mere glimpses, as it were, into the dim vista of futurity; but who that will cast a retrospective glance at the progress of the first half of the nineteenth century shall say what may not be accomplished in the latter half? Should England, as some have predicated, be doomed to share the fate of Assyria, of Greece, of Rome, and of Carthage, it will at least have given birth to two herculean republics, who will each take a hemisphere under its control, and with Anglo-Saxon energy, armed in the one hand with the sublime precepts of the Founder of Christianity, and in the other with the powers of nature which they have subdued to their service, they will extend their bloodless conquests, until all mankind shall recognise the dictates of the Creator, and form one universal brotherhood. To this end, however remote, may we not recognise a providential arrangement in the nearly simultaneous discoveries of the gold fields of California and of Australia?

HISTORY OF CAOUTCHOUC.—No. IV.

BOTANICAL HISTORY OF CAOUTCHOUC.

WE have lately been favoured with some rambling notices of the Rubber-trees, a manufacture of America, in the graphic and interesting voyage of Mr. Edwards up the Amazon. Throughout the province of Para, the title of caoutchouc is universally disused, and the more elegant term *seringa*, or the more vulgar one, rubber, is employed to designate this substance, and the trees which yield it. Standing in the water, or imbedded in rich ooze, the *seringa*-trees are recognised by their light-grey bark, all scarred over with wounds. A passing cut at some of them evidently sets free the milky sap, and the white juice runs down the trunk. In the midst of the *seringa*-trees are the wretched habitations of the gum collectors. These were merely roofed or thatched on one side, and very often the water rose to the very door. No fruit-trees of any sort were there, nor was there sign of cultivation. The forest around was just sufficiently cleared to avoid danger from the falling trees, or to let in a glimpse of the sun. In these miserable places were always families, and thus they live all the year round, eating nothing but fish and *farinha*, and their situation only bettered in summer by its being less damp. The *seringa*-tree abounds in those moist and unwholesome regions, and indeed along the whole course of the Amazon, probably to its head waters. High up this vast stream the demand has not yet been felt, and the rubber is only employed medicinally, being applied, when fresh, to inflamed parts. There exists, consequently, an enormously large area, in which these trees abound, the riches of which it remains for another generation to develop. When the rubber is wanted, enough can be forthcoming to coat the civilized world. Writing of one of the islands visited on his return, Mr. Edwards thus describes the locality of these important trees:—"The island was covered with a fine forest, in which were abundance of *seringa*-trees, all scarred with wounds. We made some incisions with our *tressados*, and the milk at once oozed out, and dripped in little streams. Its taste was agreeable, much like sweetened cream, which it resembled in colour. These trees were often of great height, and from two to three feet in diameter; the trunks were round and straight, and the bark was of a light colour, and not very smooth; the wood was soft, and we easily cut off a large root, which we brought away with us. The top of the *seringa* is not very wide-spreading, but beautiful, from its long leaves, which grow in clusters of three together, and are of oblong ovate shape, the centre one rather more than a foot in length, the others a little shorter. These leaves are thin, and resemble in no respect the leaves of an East-Indian plant, often seen in our hot-houses, and called the caoutchouc. There is, probably, not a true *seringa* in all the United States." By this we perceive Mr. Edwards must be wholly ignorant of the fact that the East-Indian caoutchouc is obtained from one natural family of plants, the South American from another. Since the term *seringa* was first given by the Portuguese to the very trees of which Mr. Edwards is writing, and which are, unquestionably, the *Siphonia elastica*, it is incorrect to state, as stated in the last paragraph, "Around these trees were many of the shells, *Ampullarias*, used in dipping the gum, and also some of the mud cups, holding about half a gill each, which are fastened to the tree for the purpose of catching the gum as it oozes from the wound. We found also the fruit of the *seringa*; it is

ligneous, the size of a large peach, and divided into three lobes, each of which contains a small black nut. These are eagerly sought by the animals, and although the ground was strewn with fragments, it was with great difficulty that we found a pair in good preservation. Specimens of all these things, wood, leaves, shells, cups, and seeds, we secured."

Between Santa Anna and Para, upon the small river Mojee, Mr. Edwards found a regular manufactory of those somewhat dangerous articles of apparel—the American rubber over-shoes, or goloshes. His account of the processes employed in their formation is so fresh and interesting, that henceforth no history of caoutchouc will be complete without it. While waiting the tide, Mr. Edwards was conducted into a manufactory of these articles close by. The man of the house returned from the forest about noon, bringing in nearly two gallons of milk, which he had been engaged, since daylight, in collecting from one hundred and twenty trees that had been tapped on the previous morning. This quantity of milk, he said, would suffice for ten pairs of shoes, and when he himself attended to the trees, he could collect the same quantity every morning for several months; but his girls could only collect from seventy trees. The seringa-trees do not grow thickly usually, and such a number may require a circuit of several miles. In making the shoes, two girls were employed, in a little thatched hut, which had no opening but the door. From an inverted water-jar, the bottom of which had been broken out for the purpose, issued a dense column of white smoke, from the burning of a species of palm nut, and which so filled the hut that its inmates could scarcely be seen. The lasts used were of wood, exported from the United States, and were smeared with clay to prevent adhesion. In the leg of each was a long stick, serving as a handle. The last was dipped into the milk, and immediately held over the smoke, which, without much discolouring, dried the surface at once. It was then redipped, and the process was repeated a dozen times until the shoe was of sufficient thickness, care being taken to give a greater number of coatings to the bottom. The whole operation, from the smearing of the last to placing the finished shoe in the sun, required less than five minutes! The shoe was now of a slightly more yellowish hue than the liquid milk, but in the course of a few hours it became of a reddish brown. After an exposure of twenty-four hours, it is figured in various ways. This is done by the girls with small sticks of hard wood, or the needle-like spathes of some of the palms. Stamping has been tried without success. The shoe is now cut from the last, and is ready for sale, bringing a price of from ten to twelve cents a pair. In England we pay from 8s. to 10s. per pair. It is a long time before they assume the black hue. Brought to the city they are assorted, the best being laid aside for exportation as shoes, the other as waste rubber. The proper designation for this latter, in which are included bottles, sheets, and any other form excepting shoes, is *boracha*, and this is shipped in bulk. There are a number of persons in Para who make a business of filling shoes with rice, chaff and hay, previous to their being packed in boxes. They are generally fashioned into better shape, being stretched upon lasts after they arrive at their final destination. By far the greater part of the rubber exported from Para goes to the United States; the European consumption being comparatively very small. Latterly these shoes, in a superior state of finish, have been imported in quantities into England. A thin extra sole of vulcanized caoutchouc is generally attached to them, the surface of which is so rough as to render walking more secure than when

the shoes are left without this addition. It has been attempted to imitate these shoes in England by moulding the concrete rubber or caoutchouc into form; but the shoes do not bear contrast with the elegant and high appearance of those of American manufacture. Their valuable properties in resisting damp and cold are best appreciated by those who have used them. They have, however, the somewhat countervailing disadvantage of confining the insensible perspiration of the feet, which leather does not confine. To those who are engaged in pursuits which necessitate exposure to all weathers, night and day, the rubber goloshes prove invaluable.

Caoutchouc—and the remark has an application also to gutta percha—is found, as before observed, exclusively in what botanists term the milk-sap of plants. The milky juice of the lettuce, the spurge, and the celandine, all contain this substance, though in a minute proportion. This juice, or milk, is contained generally in some long, variously-curved and branched tubes, not unlike veins, which run in the bark, and also partly in the pith. These have been called vessels of the *latex*. Professor Schulze, of Berlin, struck with the similitude of these vessels to veins, and of the milk to blood, thought they were really analogous in plants to the blood and blood-vessels of man. His treatise was honoured by the Paris Academy with the Monthyon prize. Yet cautious science, says Professor Schleiden, was compelled to demonstrate this theory to be only a brain-spun phantom. The milk-sap is usually of the consistence of thick milk; its colour is usually milk-white, sometimes it is yellow, red, and rarely blue—more frequently still it is colourless. Like animal milk, this juice consists of a colourless fluid and small globules. All the varieties contain more or less caoutchouc, which occurs in the form of little globules. These are prevented from coalescing by an albuminous substance, in the same way as are the butter globules in milk. Exactly like the cream of milk, the caoutchouc globules rise to the surface of the milk-sap of plants when left to stand; hence they form a cream, and coalesce, and cannot any more than butter be separated again into their distinct globules. The caoutchouc of commerce is imported under various forms; a very common form is that of the pear-shaped bottles with which every person is familiar. These bottles are produced by spreading layer after layer of caoutchouc upon a pear-shaped mould of unbaked clay. After applying the first layer, the mould is exposed to a column of smoke, and the surface is thus very quickly dried. It is then redipped in the fluid caoutchouc, and again dried in the smoke. The effect of this alternate dipping and drying is to produce a laminated structure in the caoutchouc, and if the cut edge of one of these bottles be examined carefully, it will be seen to consist of a number of layers, and not to form a homogeneous substance: the slight discoloration renders the line of demarcation between each layer in some instances very distinct. When the bottle is considered to be sufficiently thick, it is thrown into water, and in a short time the clay is capable of being entirely removed. It is to be regretted, however, that the Indians have learnt the art of adulteration, and that they are so constantly in the habit of mixing earth with the caoutchouc, managing the deception so well, that it cannot be detected until the bottle is cut into pieces. Frequently, also, small stones, are imbedded in the substance of the bottles. To so large an extent is this the case, that, as we have presently to observe, it is necessary to adopt two preliminary processes in the caoutchouc manufacture, solely with a view to get rid of these adulterations. The outer layer of these bottles is always black, or deep brown—a colour not necessarily due, as

we have so constantly read, to the smoke used in drying, but to some chemical action established by the atmosphere upon the caoutchouc. The interior layers are generally of a cream colour. Sometimes caoutchouc is imported in the form of large thick tablets. Professor Royle, in directing the attention of commercial men to the East-Indian caoutchouc, and to the form in which the best kind of caoutchouc is received from that country, states that the best price is given for that in the bottle form, or preferably, in that which is in the form of a cylinder, from one to two inches in diameter, and four or five inches in length. In all these varieties of form it may be seen by those who have the opportunity of visiting a caoutchouc factory. On such occasions the attention of visitors is often drawn to a trick practised by the Indians. Collecting all the scum and half-dried shreds adhering to the edges of their vessels, they squeeze them tightly together, so as to cause them to cohere, and the mass is then covered over with a layer or two of genuine fluid caoutchouc. In this state it is sold as a solid mass of caoutchouc, which in form it resembles. We have seen such masses cut open, when immediately the fraud became apparent.

A trick of this kind, played upon the author of 'Wanderings in South America,' is so amusing and characteristic, that we make no apology for its introduction here. "Some years ago," says Mr. Waterton, "there was a capital trick played me about Indian-rubber. It seems that the wild and uneducated Indian is not without (fraudulent) abilities." Weary and sick our traveller arrived at some Indian huts, which were about ten hours distant from the place where the gum-elastic trees grew. After a little rest he went to them, and with his own hands made a fine ball of pure Indian-rubber; it hardened immediately on its exposure to the air, and was surprisingly elastic. While procuring it, a torrent of rain fell, and so aggravated the traveller's disease, that he was unable to go again to the spot for a second ball. A fine interesting young Indian, observing his eagerness to have another ball, tendered his services, and asked two handfuls of fish-hooks for his trouble. Off he went, and returned in an extremely short period. Bearing in mind the trouble and time it had cost Mr. Waterton to make the ball, the latter could account for the Indian's expeditiousness in no other way, except that being an inhabitant of the forest, he knew how to go about his work in a much shorter way than our author. The ball had very little elasticity in it; it was tried repeatedly, but never would rebound a yard high. The young Indian watched Mr. Waterton's attempts with great gravity, and when he made him to understand that he expected the ball would have danced better, he called another Indian, who knew a little English, to assure Mr. Waterton that he might be perfectly easy on that score. Mr. W. was given to understand that the ball was like the little moon, which the Indian pointed to, and by the time it grew big and old, the ball would bounce beautifully. This seems to have satisfied our credulous traveller, who gave the Indian the fish-hooks, which the latter received without the smallest change of countenance. Mr. Waterton bounced his ball repeatedly for two months after, but he found that it still remained in its infancy. At last his suspicion was aroused, and he cut the ball in half, and then saw what an artful trick had been practised upon him. It seems the Indian had chewed some leaves into a lump the size of a walnut, and then dipped them in the liquid caoutchouc. It immediately received a coat about as thick as a sixpence. He had then rolled some more leaves round it, and gave it another coat. He seemed still to have continued this process, till he had made the ball considerably larger than the one which

Mr. Waterton had formed with his own hands. In order to put his roguery out of all chance of detection, he made the last and outer coat thicker than a dollar.

THE RACES OF THE POPULATION OF THE UNITED STATES.

BY AN AMERICAN.

I PROPOSE to show the elements of the population of the United States. This I shall do very briefly, but I trust satisfactorily, by two statements: first, by answering the inquiry which may be made, what was the character, as to races, of the population which composed the thirteen British colonies which declared their independence in 1776; and, secondly, in giving the numbers and character of the emigrants from Europe to the United States since the American Revolution, with an estimate of the probable numbers of the descendants of those emigrants, thus added to the population.

The British colonies in America, forming the original thirteen states, it is well known, were settled by emigrants—a large proportion of whom were natives of Great Britain. No considerable emigration of Celtic Irish, or other people of Celtic origin, took place until after the commencement of the present century. The New England States, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia, were mainly settled by Englishmen. New York, the only Dutch colony, passed under British dominion, with a small population, partly Dutch and partly English, in 1674. The Dutch records of 1673 say:—"They, and as many of the Dutch nation as are yet residing under this Government, are calculated to amount, women and children included, to about 6,000." In 1698 the total number of inhabitants in the colony was 18,067; and in 1723 the whites had increased to 34,393, and the blacks to 6,171—total, 40,564. This was under the English Government. A few Dutch, Germans, and Poles settled in New Jersey; a few Swedes in Delaware; many Germans in Pennsylvania, where they afterwards became one-third of the population; and some French Protestants, called Huguenots, in New York, New Jersey, and South Carolina. Besides the small Polish colony in New Jersey, referred to above, another branch of the Slavonic race was represented by a colony of a few Moravians and Bohemians in Pennsylvania.

With the exception of a few Scotch Highlanders, who settled in North and South Carolina and Georgia, I believe no Celtic colony is to be found among the settlements in the British North American colonies of either the seventeenth or eighteenth centuries. Settlements of Lowland Scotch and Scotch Irish from the north of Ireland were made in Pennsylvania and the Carolinas, and a small number of Irish Protestants settled in the town of Londonderry in New Hampshire. The very considerable numbers of Irish Protestants from Ulster and other parts of Ireland (of Lowland Scotch and not of Celtic origin) who have from time to time emigrated to the United States, have led to much confusion and error in investigating the elements of American population. But minute inquiries into the progress of the colonies will satisfy impartial observers that no considerable Celtic element existed in the population of America previous to the United States census of 1790. The Welch, considered by some as Celts, but who, in truth, are the descendants of the Cymri, furnished a small

proportion of the early emigrants to British America. They have doubtless mixed more with their English neighbours on their native island than have the Scotch and Irish; and of the emigrants to America, particularly to New England, it was often difficult to distinguish between the Welch and English who came over together in the early colonial history. There were, however, a few Welch colonies in the United States, in the last century, where the emigrants retained their language, manners, and customs. Such is the county of Cambria, in Pennsylvania, and some smaller settlements in New York and other States. It is probably fair to estimate the Welch element in the present population of the United States at 500,000.

In giving a view of the various races who contributed to form the population of the colonies, I should mention that a few Jews were among the number, principally commercial adventurers in the Atlantic cities and towns; but the greatest proportion of the Jewish race now found there is of recent emigration.

We see, then, that the following European races made up the population of the British colonies previous to the American Revolution, viz.:—Anglo-Saxon, Lowland Scotch, Scotch Irish, Welch, Highland Scotch, Germans, Dutch, French (Huguenots), Moravians, Poles, Swedes, and Jews. To these may be added a few Flemish or Belgians, who came over with the Dutch to New York and New Jersey. At the commencement of the Revolutionary war in 1775, the population of the thirteen colonies has been estimated at 2,000,000 of whites, and 600,000 blacks. There were a few Irish gentlemen of Celtic origin who accompanied the English Catholics of Lord Baltimore's colony to Maryland, and a few families of like origin are to be found among the old families of New England and some of the other States, but their numbers were too inconsiderable to affect a general inquiry and calculation like the present. The same remark will apply to the Irish Celtic servants and labourers, who accompanied the Anglo-Saxon, Welch, and Scotch emigrants in the seventeenth and eighteenth centuries to the middle and southern colonies.

I now proceed to examine, very briefly, the effect of emigration from Europe to the United States for a period of sixty years—viz., from 1790 to 1850, upon the present population of America. The following is the result of estimates and returns made up at the Census Office at Washington bearing upon this subject of emigration:—

IMMIGRANTS FROM FOREIGN COUNTRIES INTO THE UNITED STATES.

From 1790 to 1810	-	-	-	-	120,000
From 1810 to 1820	-	-	-	-	114,000
From 1820 to 1830	-	-	-	-	203,979
From 1830 to 1840	-	-	-	-	778,500
From 1840 to 1850	-	-	-	-	1,543,850

Total number of Immigrants for sixty years	2,760,329
Natural increase in periods of ten years	1,590,805

Total number of Immigrants since 1790 and their descendants in 1850	4,350,934
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The aggregate number of whites, as shown by the census of 1850, was 19,631,799; so that, if we allow half a million for the gain of white population by the accession of Louisiana, Florida, Texas, California, and New Mexico to the territories of the United States, with a further allowance

for other accessions by immigration previous to 1790, it appears that about three-fourths, or more than 14,000,000 of the present population, are descendants of European colonists previous to the American Revolution.

Twenty years since, when the white population of the United States was 10,537,378, and the number of coloured people 2,328,642 (viz., slaves 2,009,043, free 319,599), according to the census of 1830, Professor Tucker, of Virginia, who has written much on the subject of population, made the following estimate of the division of the people of the United States, according to races and descent, viz. :—

	Census of 1830.
English and their descendants - - - -	6,000,000
Scotch - - - -	500,000
Irish - - - -	2,000,000
German - - - -	1,000,000
Dutch - - - -	500,000
French - - - -	300,000
Swedish, Spanish, Swiss, &c. - - - -	200,000
Total—Whites - - - -	10,500,000
Africans and their descendants - - - -	2,328,642
Total—White and Coloured - - - -	12,828,642

On the above basis, slightly varied, I give the following estimate of the approximate proportions of the different races forming the population of the United States in 1850 :—

Anglo-Saxons - - - -	11,000,000
Lowland Scotch - - - -	700,000
Scotch, and Anglo-Saxon Irish - - - -	1,500,000
Celtic Irish - - - -	2,000,000
Welsh - - - -	300,000
German - - - -	2,000,000
Dutch - - - -	800,000
French (including Huguenots) - - - -	1,000,000
Danes and Norwegians - - - -	100,000
Swedes - - - -	100,000
Swiss - - - -	50,000
Spaniards, Italians, Jews, &c. - - - -	100,000
Total—Whites - - - -	19,650,000
Africans, Slaves and Free - - - -	3,600,000
Total - - - -	23,250,000

With regard to the Irish Celtic population in the United States, it may be remarked that, compared with the inhabitants of the Anglo-Saxon stock, it is a short-lived race, and the average rate of mortality among these recent immigrants to America is much greater than among other portions of the population.

TRUTH.

Accustom your children to a strict attention to truth, even in the most minute particulars. If a thing happened at one window, and they, when relating it, say it happened at another, do not let it pass, but instantly check them: you do not know where deviations from truth may end.—JOHNSON.



THE MONKEY.

MONKEY, little merry fellow,
Thou art Nature's Punchinello ;
Full of fun as Puck could be,
Harlequin might learn of thee.

In the very ark no doubt
You went frolicking about ;
Never keeping in your mind
Drown'd monkeys left behind.

Have you no traditions—none
Of the court of Solomon ?
No memorial how ye went
With Prince Hiram's armament ?

Look now at him ! slyly peep
He pretends he is asleep ;
Fast asleep upon his bed,
With his arm beneath his head.

Now that posture is not right,
And he is not settled quite ;
There ! that's better than before,
And the knave pretends to snore.

Ha ! he is not half asleep ;
See, he slyly takes a peep,
Monkey, tho' your eyes were shut,
You could see this little nut.

You shall have it, pigmy brother.
What ? another ! and another !
Nay, your cheeks are like a sack,
Sit down and begin to crack.

There, the little ancient man,
Cracks as fast as crack he can ;
Now good-bye, you merry fellow,
Nature's primest Punchinello.

MARY HOWITT.

EMIGRATION.

It appears from the Report of the Emigration Commissioners, that 335,966 persons emigrated from the United Kingdom in the year 1851. Of these, 267,357 went to the United States ; 42,605 to British North America ; 21,532 to Australia ; and 4,472 to other places. The Report for the year 1852 will no doubt show a very different distribution of the emigrating masses, the numbers going to Australia being greatly on the increase.

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A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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**IMMIGRANTS FROM THE REFORMED FOREIGN CHURCHES—
EARLY MANUFACTORIES IN CANTERBURY AND OTHER
PARTS OF KENT—ARCHBISHOP CRANMER, &c.**



ANCIENT CANTERBURY.

THE ancient city of Canterbury, which now turns out nothing but brawn and parchment, was of old the seat of considerable manufactures. It was, in fact, one of the first places in England in which the foreign Protestant refugees found an asylum, and took up their homes, when they came to enjoy religious liberty and to teach us their most useful arts.

VOL. II.

We do not so much admire our overgrown manufacturing towns, or the style of morals and politics which prevails in them, as to regret that Canterbury, instead of remaining the quiet place that it is, as the centre of a great rural and agricultural district, should not have become another Coventry or Leeds; but it may be a fair matter of speculation to consider whether the population might not have been benefited if some of their old industries had been retained, or whether some branches of manufacture might not even now be restored with advantage to the city. There seem to be several local advantages: the wool of Kent is the best produced in all England; there is water-power enough to drive a score of factories—nay, even to satisfy that great practical philosopher, Sam Slick—and the water of that quality which is admirably suited to paper-making. A few factories might afford employment to poor women and children not hardy enough for agricultural labour, and they might yet contribute materially to revive the general trade of the city.

Very soon after the conquest of William the Norman, foreigners, far more skilled in manufactures than we then were, began to settle among us, in small numbers. In fact, most of the mechanical arts were brought to us by immigrants from different parts of the European continent. Even the shoeing of horses with iron shoes is supposed to have been not at all a usual practice before the Conquest. In the little Welsh principalities, not merely by custom but by express law, the blacksmith, by right of his profession, held rank next to that of the head chaplain of the prince's court. The Saxons built their dwelling-houses almost always of wood, and generally in a very slovenly manner. Italians, Normans, Poitevins and others, taught us to build houses of brick and stone. Many of these instructors and civilizers belong to the monastic bodies, and to them also is to be attributed the honour of greatly improving the agriculture of our rough and wasteful Saxon ancestors. The art of dyeing, which has so important a connexion with our woollen manufactures, is said to have been introduced among us by foreign *Jews*. It has been well said by a recent very judicious and industrious writer, that "the progress of one art inevitably leads to improvements in others, as obstacles which have never before been encountered stimulate ingenuity, and lead to inventions for overcoming them."*

Henry I., surnamed, on account of his rare literary accomplishments, the Beauchamp, or fine scholar, in order to check the incursions of the Welsh, erected a few castles along that frontier, founded or much enlarged some towns in Pembrokeshire, and collected there a number of Flemings, who had been driven into England by the misfortunes of their own country in the time of his father, William I. The misfortunes of our immigrants of the eleventh century did not arise out of religious persecution. The Flemings fled from the effects of a terrible inundation of the sea.

These Flemings were a brave and an industrious people, handling both the plough and the shuttle. For the plough or for the sword, they were always equally ready. "*Nunc ad aratra nunc ad arma, gens promptissima*," says Giraldus Cambrensis. In more detail the same old Welsh chronicler says, that they were "a people excellently skilled in the art of making cloth, and in the practise of merchandize, and always ready, at any labour or danger, to seek for gain whether by land or sea." At their first coming over, they had been settled chiefly in Carlisle and the neighbouring seaports. When removed into Pembrokeshire, Henry I. gave them the town of Haverfordwest, with the district of Ross in that county. They

* G. L. Craik, 'Hist. of British Commerce.'

there maintained their ground against all the efforts of the wild Welsh mountaineers, and soon increased in numbers and prosperity. By these Flemings, of whose mingled blood and old habits of life some traces are yet to be discovered in that picturesque part of the island, the manufacture of good woollen cloths appear to have been first introduced among us. They intermarried with their Pembrokeshire neighbours, and taught them this valuable industry. It is thought that in a short space of time they made cloth, not only for home consumption but for exportation also. If they did, their exports must have been very limited, for during the space of four centuries, England continued to trade in the raw material, to export her wool, and to purchase the cloth that was chiefly made of it in the Netherlands. Wool—unmanufactured, unwoven wool—was the grand staple of England; and hence the dignity of the woolack in the house of Peers, and hence the constant mention of the commodity as the chief source of national and governmental revenue. Whenever the Court runs short of money we are sure to hear a loud cry about wool. Edward III., finding his finances exhausted by his wars and conquests in France, seizes upon all the wool at the ports of embarkation. The renowned Queen Elizabeth is not a better political economist than Edward III., for when she is sadly pressed for money, she does precisely the same thing—and this, too, by the advice of the great Sir Thomas Gresham, who was reputed to be the very flower of merchants, financiers, and economists, or the M'Culloch of his day, or rather a M'Culloch, Baring, and Jones Loyd all in one.

The interesting foreign colony in Pembrokeshire was the last, of any consequence, settled in any part of England, until the coming of the Walloons, in the time of Edward VI., when some of the very first of those incomers settled in Canterbury.

Separate families of foreigners, carrying on different arts and trades, had not been missing during the long interval. We regret to add that it is chiefly through disgraceful riots and popular persecutions that we hear of the strangers in history or chronicle. The citizens of London were excessively jealous of these ingenious and industrious men, who were in fact improving the country which they had chosen for their home or their temporary sojourn. There was an intermittent fever of hatred and malice against them, and it showed itself every now and then in a maniacal form, in the burning of the houses and assaulting the persons of foreigners. The turbulent London apprentices were foremost in these exploits, for which they not unfrequently paid on the gallows or under the gibbet. For their pranks at the "Black Watch," Henry VIII. strung up no fewer than twenty of these wild young men, who could not let the strangers be at peace within the city. This had a noticeable effect in diminishing the frequency of such riots; but the hostile feeling did not cease until the foreigners who came to settle in England were people flying from Roman Catholic persecution, and professing the same new reformed religion as the English. This community of religion was a great soother and civilizer; it appears to have almost immediately abated our strong national antipathies, and to have converted John Bull into the warm and kind friend of every refugee. The wars that then raged were wars of religion. To most men England seemed engaged in a very unequal contest with the great leagued Catholic powers; her Protestant allies on the continent were as yet few and feeble, consisting in good part of the revolted subjects of the Catholic sovereigns; invasion was repeat-

edly threatened, and the popular mind was filled with horrible images of Spanish inquisitors, racks, tortures, and autos di fé. The immigrants who had many frightful tales to tell could never want listeners; their interests soon became identical with those of the English; they read the same Scriptures, they worshipped in the same churches, or followed the same liturgy and ritual; and the oneness of religion eventually made them one-hearted. Differences and polemical dissensions crept in afterwards, but they rose to no very violent height; the English people had become accustomed to live quietly with the foreigners, and to see them exercise their trades without any jealousy. There were no more "Black Watches," no more battues with alien men for game. Hosts and guests were embarked in a common and a holy cause, and exposed to the same perils. Until quite recently the Scriptures had been sealed.

"But, to outweigh all harm, the sacred Book,
In dusty sequestration wrapt too long,
Assumes the accents of our native tongue;
And he who guides the plough or wields the crook,
With understanding spirit now may look
Upon her records, listen to her song,
And sift her laws, much wondering that the wrong
Which Faith has suffered, Heaven could calmly brook.
Transcendant boon! noblest that earthly King
Ever bestowed to equalize and bless
Under the weight of mortal wretchedness."

In the Bible, the English and their Protestant guests now looked for comfort and encouragement in their afflictions and dangers, and they joined each other in interpreting the prophecies and denunciations of Scripture to the cost of the "triple tyrant" and the whole congeries of papal monarchs.

We are not bound to justify, or even to palliate, the errors, violence, and, it must be added, iniquities of the men who were the early instruments of working out the Reformation. They fell with a most savage and unsparing hand, not only upon the shrine of Thomas à Becket, but also upon numerous works of art, which really were not obnoxious to any rational belief or religious sentiment. Culmer's hammer was wielded by many hands. The town itself was in good part ruined in the time of Henry VIII. The respectable historian of Kent, who in this passage rises to an eloquence not common with him, says:—"While the beauty of holiness remained here, Canterbury continued in the smiles of prosperity, forgetting the casualties it had so often felt in the old times, both by the fire and the sword; but when the storm of reformation burst on its religious houses, and brought on their dissolution, the source of its high estimation and wealth, in great measure, fell with them, and from great opulence and reputation, multitude of inhabitants and beautiful buildings, this city fell suddenly to extreme poverty, nakedness, and decay, insomuch that to re-edify its decayed houses it required an Act of Parliament to be passed almost immediately. . . . The city remained in this forlorn situation, apparently without remedy, until about the end of the reign of Edward VI., when, strange as it might be, the persecution of the same tenets which had been so lately in great measure the cause of its ruin, began to give some hopes of its being raised to prosperity again, though by no means equal to its former state. This was occasioned by the persecution of the Protestants by the Duke of Alva, under Philip II. of Spain, in Brabant and Flanders, which began at about this time; and as it was carried forward from time to time in those coun-

tries, as well as afterwards in France, it continued to give new life and vigour to the trade of this kingdom, by the communication of paper, silk, fine woollen, and other valuable manufactures." These immigrants, manufacturers, and instructors from Brabant and Flanders, were called Walloons, although it should appear that a good many of them did not strictly belong to the Walloon family. It also appears that these fugitives had been preceded by many Protestants from Germany, and by a number of French families, chiefly from Picardy and Artois.

In the second year of the reign of Edward VI., A.D. 1549, the inauguration of King Henry II. of France was attended by a cruel persecution, and illustrated by autos di fé. In several streets of Paris, as the king passed by, people convicted of entertaining the doctrines of Luther were burned at the stake. This spread terror among the new converts to Protestantism, and drove so many of them to our shores. The court of King Edward VI., or rather of the Protector who ruled in his name, had either invited over or had given refuge to several very eminent scholars and divines, such as à Lasco, a Pole, Bucer, a German, and Peter Martyr, a Neapolitan, who were assisting Archbishop Cranmer in settling the new Anglican Church, and composing its magnificent liturgy. By these divines the refugees were strongly recommended to the existing Government, and in the year 1551, letters-patent, addressed to à Lasco, the learned Pole, were granted by Edward VI., allowing them the free exercise of their religion, giving them the church of the Augustine Friars in London (Austin Friars) for a place of worship, and appointing à Lasco to be their superintendent, and Gualterus Delænus, Martinus Flandrus, Franciscus Rivierius, and Richardus Gallus to be their chief ministers in this church. This congregation in London was called the first "German Congregation;" but, as is fully explained in the letters-patent, it consisted of "many men of the German nation, and of many other fugitives from remoter parts and countries wherein the papacy domineered and evangelical liberty was suppressed."

This document, in Latin, which, in all probability, was composed by Archbishop Cranmer, is given at full length in Bishop Burnet's 'History of the Reformation,' vol. ii. p. 154 of part 2, original edition of 1681. Rymer has also printed it in his 'Fœdera,' vol. xv., p. 242. It contains some beautiful passages on the duties of a Protestant prince to succour those who are in misery for conscience' sake, to oppose the papal tyranny, and to vindicate the pristine liberty of the church. It describes John à Lasco in these flattering terms:—"Natione Polonus, homo propter integritatem et innocentiam vitæ ac morum, et singularem eruditionem valde celebris."*

The strangers were by the same letters-patent made denizens of England, and their congregation was erected into a corporation. Their original number in London appears to have been three hundred and eighty.

There is abundant evidence to show that the refugees obtained all their favour through the Archbishop of Canterbury. That learned Neapolitan, Peter Martyr, has left upon record this tribute of praise to Cranmer:—"Towards myself and others that fled into England for religion, the kindness and humanity of the Archbishop were such, that if I should render just thanks, and speak of them as they deserved, I must do nothing but talk of them."†

* P. Martyris, Ep. Ded. anti librum de Eucharist.—Strype.

† By nation a Pole, a man greatly celebrated for the integrity and innocence of his life and morals, and for his singular learning.

As their numbers were increased by fresh fugitives, some of the members of a Lasco's church came from London into Kent, to settle at Maidstone and Canterbury. But there is also reason to believe that several of them were resident in Kent before going to the metropolis, and that some few established themselves in Canterbury, without going to London at all. In the quiet secluded village of Bekesbourne, only three miles from this city, the Archbishop Martyr had a spacious and pleasant manor-house. This house he is said to have fitted up for the use of wounded soldiers, who should be landed on the southern coast of the island; supplying it with a physician, a surgeon, nurses, and everything proper, as well for food as medicine; and the patients, on their recovery, with money to convey them to their homes.* This is the first military hospital in England of which we have any recollection. During the wars of Henry VIII. on the coast of France, the manor-house at Bekesbourne might be well filled with wounded soldiers; but during the reign of Edward VI., our only wars were in Scotland, and such men as were wounded there were not landed on the Kentish coast. But it was almost exclusively to this coast—

“ . . . That doth advance

Her haughty brow against the coast of France,”†

that the foreign Protestant fugitives first repaired. They appear nearly all to have landed at Dover or Folkstone, Sandwich or Ramsgate, the nearest and most convenient ports, whether they embarked at Ostend or at Calais, their most frequent place of embarkation, as that French city and fortress were as yet in the hands of the English, and were not yielded to the French monarch until the unhappy reign of Queen Mary. But too many of these conscientious people, flying from torture or from death, fled in too great a hurry to carry property with them, and were landed on the Kentish shore in a destitute condition. Their nearest and best asylum would be the primate's manor-house at Bekesbourne; and, assuredly, that humble little village ought to have an interest in our eyes, since we can so reasonably associate it with the sufferings and timely relief of these early “pilgrim fathers.” The manor-house is almost gone, but the green flat on which it stood, the valley and the brook, or “bourne,” remain; and, in their presence, a true English heart may grow the warmer by reflecting that here the victims of papal intolerance were first comforted, and that here the sick received medical aid, and that here the archbishop's bounty was distributed to them, if not to convey them to their own homes (which most of them had left for ever) to enable them to seek new homes in a hospitable country, and among a people of their own faith.

It is, indeed, scarcely possible that the poor, sick, and afflicted, coming from Dover or Sandwich, should pass the house without resting at it. Cranmer himself, as well as the many foreign divines, for nearly all of whom he had obtained a good provision in England, was in constant correspondence with the pastors of the suffering Protestant flocks on the Continent; and even if the fugitives were not previously acquainted with the manor-house of Bekesbourne by means of this correspondence, they would be apprised of its existence by popular rumour, so soon as they set foot on the Kentish shore.

* Gilpin's Biography, as quoted by the Rev. H. J. Todd in ‘Life of Archbishop Cranmer,’ vol. ii. p. 539.

† Wordsworth, Sonnet, “To the Men of Kent,” October, 1803.

SKERRYVORE LIGHTHOUSE.—No. II.

MR. STEVENSON appears to have left Tyree a few days after, with the full hope that the labours of the season would stand the effects of the approaching winter. But in this he was very soon doomed to be disappointed; for in the first week in November, a heavier gale than had been known for sixteen years washed away all of the erection but some of the iron stanchions. The smith's forge, too, disappeared, and the anvil was thrown about eight yards from the place where it had been left. Mr. Stevenson instantly found his way down to the scene of devastation; but, from the heavy state of the sea, no landing on the rock could be effected, and he had only the melancholy prospect of the remains of the labours from the boat. Owing to the weather and a strong contrary gale, they got back to Tyree with great difficulty. "We did not land at Hynish, in Tyree," says Mr. Stevenson, "until seven in the morning, where we took in the men who were to go home for the winter. The ground was deeply covered with snow, which made the embarkation of so many persons, and so much baggage, a tedious and uncomfortable operation; and when we sailed, we had to encounter all the inconveniences of a strong gale and a heavy sea, with the concomitant of a deck covered with passengers, all very sick and much dispirited. Many of the men seemed to be as much concerned as myself for the loss we had sustained. To add to our difficulties, the vessel, under the care of a native pilot, had touched slightly on a rock off Hynish Point, and gave some indications of leaking; we, however, reached Oban in safety."

A new building, on rather a firmer scale of security, was erected in 1839, and various works were also forwarded at the workyard at Tyree; among these was a large room, paved with a stone floor, for drawing at full size the courses of the lighthouse, and making moulds for dressing the stones. A platform of squared masonry was also set in the workyard, on which the courses were to be laid before being shipped for the rock. The quarries at Tyree not being found so productive of proper materials as was expected, measures were taken for opening others in the island of Mull. In the workyard all the stones for the lighthouse were prepared; and in dressing one of the outside stones of the first or lowest course of the tower, a mason was occupied eighty-five hours; and in one of the inner ones of the same course, fifty-five. But as the work proceeded, and the men became more expert in their employment, the time occupied gradually decreased to ten hours for each stone, until it reached the thirteenth course. At this stage of the work, the time again increased to about a hundred and twenty hours for each outside stone; and from that point again gradually decreased. The excavation for the foundation of the lighthouse on the rock was begun on the 6th of May, 1839, and was continued until the 3rd of September, when the labours of the season closed.

"A more unpromising prospect of success, in any work, than that which presented itself at the commencement of our labours," writes Mr. Stevenson, "I can hardly conceive. The great irregularity of the surface, and the extraordinary hardness and unworkable nature of the material, together with the want of room on the rock, greatly added to the other difficulties and delays which could not fail to be felt, under the most favourable circumstances, to attend the excavation of a foundation-pit on a rock at the distance of twelve miles from the land. The rock required the expenditure of about four times as much labour and steel for boring as are generally consumed in boring the Aberdeenshire granite." The blasting of the rock was a danger with which they had to contend, and which involved

great risk. The removal, too, of two thousand tons of quarried material was a task of time and difficulty; for unless it was thrown into deep water, it would most probably be thrown back upon the rock, and thus endanger the barrack. Two cranes, with temporary runs and trucks, were almost constantly in requisition; and on several occasions these, tools and all, were swept away by the sea.

Progress under these and other difficulties was consequently but slow; "and those," says Mr. Stevenson, "who can duly weigh the dangers of our daily life, both in our little vessel and on the rock, will feel true sympathy with the heartfelt expressions of gratitude to the Almighty hand which guarded us, which often went round our little circle in the boats, as we rowed in the twilight from the rock to the vessel."

The foundation occupied this season, and some time of the summer of 1840. The erection of a second barrack was a work of both difficulty and anxiety; but was completed, to the great credit of the workmen employed, in about twenty-five days. The foreman, however, was not permitted to share in the comfort of the refuge he had most zealously superintended; for he died very suddenly, shortly after its completion, much to the regret and loss of Mr. Stevenson. During the summer of 1839, the tender twice broke from her moorings during a storm; and this fact occasioned great consternation, for a stronger proof of the very great power of the western swell can hardly be imagined. In one of these storms, all the beams in preparation for the barrack were washed off the rock, although lashed down with chains; and the smith's forge was overturned. But the greatest loss was that of the cask-buoy: as during the rest of the stay for that season at the rock, they were compelled to ride at anchor in foul rocky ground, over which the vessel frequently drifted to an alarming distance, occasioning no small fear of safety. The boats in landing at the rock were, on two occasions, half filled by the sea, and nine or ten men thrown out on the rock by the *hanting* of one of the boats at the recoil of the waves. The landing department, indeed, throughout the whole of the season, was attended with so much difficulty, as to be a constant source of anxiety to the architect.

During Mr. Stevenson's sojourn at the rock, he had frequent opportunities of witnessing the great necessity there existed for the erection of a beacon. In his interesting history of the building, he mentions several vessels which were exposed to the danger of coming unawares on the reef, occupying as it does so fatal a position in a great fairway, frequented by large vessels bound to or from parts in the Irish Sea and in the Clyde. The first landing on the rock in 1840 was on the 30th April, when they had the pleasure of finding everything connected with the barrack to be in nearly the same state as when left seven months before. Although the water had in a slight degree found its way into the building, it was generally in so dry a state, that the greater part of the biscuits, left as store for any shipwrecked seamen, were still available for provision. This barrack consisted of a wooden tower, under which was an open gallery, the floor of which was removed at the end of each season, so as to allow free passage of the sea during the storms of winter; but on which, during summer, the crew kept the tool-chests, beer, and beef-casks, &c. The first apartment was a kitchen, over this were two small rooms, occupied by the architect and foreman; the highest apartment was lined with berths for the accommodation of thirty men. The closeness of this room during the fine weather frequently tempted the men to make the bare rock a sleeping-place, with the clear blue sky for a canopy. During stormy weather, the residence in it appears to have been anything but agreeable; though Mr. Stevenson

declares that, on the whole, he really *enjoyed* an uninterrupted residence of not less than five weeks on the desert rock. On the 14th of May 1840, the barrack was first made a place of lodging for the workmen, but during the first month they suffered much from the flooding of the apartment with water, when many sprays lashed the walls with great violence, which was the case, although the dwelling part was so much raised above the level of the rock. In rainy weather, and in the northerly gales, they were so exposed to the winds and waves that they could not keep themselves warm. "On one occasion," says Mr. Stevenson, "we were fourteen days without communication with the steamer or the shore; and during the greater part of that time, we saw nothing but white fields of foam, as far as the eye could reach, and heard nothing but the whistling of the wind and the thunder of the waves, which were at times so loud as to make it almost impossible to hear any one speak. For several days the sea rose so high as to prevent us from attempting to go down to the rock, and the cold and comfortless nature of our abode reduced us all to the necessity of seeking warmth in bed, where (rising only to our meals) we generally spent the greater part of the day listening to the howling of the winds, and the beating of the waves, which occasionally made the house tremble in an alarming manner. Such a scene, with the ruins of the former barrack not twenty yards from us, was calculated to inspire the most desponding anticipations; and I well remember the undefined sense of dread that flashed across my mind, on being awakened one night by a heavy sea, which struck the barrack and made my cot swing inwards from the wall, and was immediately followed by a cry of terror from the men in the apartment above me, most of whom, startled by the sound and tremour, immediately sprang from their berths to the floor, impressed with the idea that the whole fabric had been washed into the sea. The alarm, however, was very short, and the solemn pause which succeeded the cry was soon followed by words of reassurance and congratulation."

Towards the end of the fourteen days, Mr. Stevenson became very uneasy, as the provisions were drawing to a close; and when a signal to the shore could be made that a safe landing might now be effected on the rock, no more than twenty-four hours' provision was left, so that when the steamer came in sight she was most joyfully hailed by all hands. During the first half of this season thirty men were engaged fourteen hours a day, in the preparation of the foundation pit, which, as already said, was a work of immense labour. The work, indeed, was so hard in many spots that it was feared no tools would ever make any impression on it. And when a gigantic basin of variegated marble, forty-two feet in diameter, was at length finished, the workmen seemed almost reluctant to cover up so creditable a piece of labour and perseverance. In all the work, nothing was so much grudged as the occasional half-day's work which it required to bale out the water from the pit after a heavy sea had filled it.

Four small vessels were employed in the transport of materials to the rock, and on the occasion of the first landing of a cargo, the steamer and stone-craft were decorated with flags, and due honour was done to the arrival of the first stone, by firing a salvo shot, and drinking success to the works. The landings, though conducted with great care and prudence, still gave cause for much fear and anxiety. On many occasions, the men who steered the lighters ran great risks, and it was often found necessary to lash them to the rails, to prevent their being thrown overboard by the weight of water which swept their decks as they were towed through a heavy sea.

Very frequently, no landing at all could be effected; but still, during the whole season of landing eight hundred tons of masonry on the rock, too often in the most dangerous manner, none of the dressed stones, or those concerned in landing them, received any material injury.

The building of the tower was commenced on the 4th of July 1840, and on the 7th the ceremony of laying the foundation-stone was performed by the Duke of Argyll, who, as proprietor of Tyree, took great interest in the success of the works.

The building operations were carried on by means of two cranes, with moveable jibs, of which one was fixed just beyond the foundation, between the landing-way and the tower, to bring forward the materials, and the other, placed in the centre of the tower, served for laying the stones, and was raised with the rise of the building. So perfectly had the stones been dressed in the workyard at Tyree, that no alteration was required; and such was the facility offered by the building apparatus that, by working fourteen hours, as many as eighty-five blocks were set in a day. The mortar employed was composed of equal parts of Aberdara lime and Pozzolano earth, the same as that used by Smeaton in the Eddystone.

"The workyard of Tyree," says Mr. Stevenson, "presented a very busy scene during the summer and winter of 1840; and the desolation and misery of the surrounding hamlets of Tyree seemed to enhance the satisfaction of looking on our small colony, where about one hundred and fifty souls were collected in a neat quadrangle of cleanly houses, conspicuous by their chimneys and windows amongst the hovels of the poor Hebrideans, who generally make no outlet for smoke in their gloomy dwellings, but permit it to escape by the doors. The regular meals, comfortable lodgings, and cleanly energetic habits of the Lowland workmen, formed a cheering contrast to the listless, dispirited, and squalid look of the poor Celts, who have none of the comforts of civilized life, and are equally ignorant of the value of time and the pleasures of activity. When employed as labourers, they appear to have been of little service, as, partly from incapacity, and partly from excessive indolence, they could not be trusted for a moment without strict superintendence.

The spring of 1841 was very stormy; but on first landing, both the barrack, and such portion of the lighthouse as had been erected, were found to be quite perfect. The first experience of the season was anything but inviting, for after the landing of eight had been with great difficulty effected, the vessel was compelled to return to Tyree with the rest of the men and all the heavy apparatus, which they could not land. The steamer could not return for some days, which were spent in the barrack exposed to a piercingly cold wind, in apartments soaked with spray. One of the masons was, at this unfortunate juncture, taken very ill, with spasms of so distressing a nature, "that his piercing cries, combined with the howling of a strong north-wester, are described as having entirely deprived the whole party of sleep." As soon as the steamer could again approach, he was sent back to, and placed under the care of, the surgeon attached to the workyard at Tyree. During all the first part of the season, the weather appears to have been intensely cold, with showers of sleet and heavier showers of spray. These, dashing around in all directions, kept the workmen constantly wet; their scanty wardrobes not admitting of the frequent changes which were absolutely necessary, their only means of drying their soaked habiliments being the small caboose, or cooking-stove in the barrack. For many days together they were entirely without building materials; none could be landed, and very often when they

were on the rock, the violence of the wind prevented any use being made of them, and constant fear was felt lest one of the tremendous waves which so frequently rolled by, with overwhelming violence, should sweep the whole pile of stones off in its passage.

Some of the party never became sufficiently familiarized with the great crested waves as to mark their approach with composure, even from the tower when thirty feet high. This is not to be wondered at, perhaps, for some of the crested monsters, on approaching the rock, seemed to be on the point of sweeping all before them into the sea. Amongst the many wonders of the great deep witnessed at Skerryvore, not the least is described by Mr. Stevenson to be the agility and power displayed by the unshapely seal. "I have often," he says, "seen half-a-dozen of these animals round the rock, playing on the surface, or riding on the crests of curling waves, coming so close as to permit us to see their eyes and head, and lead us to expect that they would be thrown high and dry at the foot of the tower; when suddenly they performed a somersault within a few feet of the rock, and, diving into the flaky and wreathing foam, disappeared, and as suddenly reappeared a hundred yards off, uttering a strange low cry, as we supposed, of satisfaction at having caught a fish. At such times the surf often drove among the crevices of the rock a bleeding cod, from whose back a seal had taken a single, moderate bite, leaving the rest to some less fastidious fishes."

The latter part of this season, though not so stormy as the first, was very unfavourable to building operations; and even during the month of July, a gale is described as having for five days rendered it unsafe to stand upon the tower. "Happily," says Mr. Stevenson, "the wind was from the N.E., a quarter from which it has comparatively little power in raising heavy seas, otherwise we should have infallibly lost a large part of the dressed materials, which lay piled on the rock, and in all probability should have thus had our work prematurely cut short in the middle of summer."

The mass of masonry built during the season, was 30,300 cubic feet, a quantity considerably more than double that contained in the Eddystone, and somewhat more than the mass of the Bell Rock.

Two apartments were covered in before the work was discontinued on the 17th of August, and the third nearly completed. A strong tarpaulin was put over the balance-crane to protect it as much as possible from the weather, and also to make a temporary lightning-conductor from the top of the building to the sea. On the 17th of April 1842, Mr. Stevenson made his first landing on the rock for the season, and found traces of the very heavy seas which had passed over it during the winter. Stones had been raised and thrown on the tower, to the height of no less than sixty feet above high-water mark, and the tarpaulin-cover over the crane was torn to shreds by the action of the weather; the building to a height of six or eight feet was covered with a thick coating of green sea-weed.

The lower part of the barrack was now converted from an open gallery into a lodging for additional workmen; but with all the precautions used it proved but a comfortless abode for the men, the cots or hammocks being rarely dry. During the remainder of the month of April, and the commencement of May, the frequent gales of wind prevented the men from very often venturing to leave the barrack. The sea, at these times, is described as breaking so heavily over the building, as to darken the room which Mr. Stevenson occupied, though it was fifty-five feet above the water. A long continuance of north-easterly winds then succeeded, enabling the workmen to carry on their operations with great success.

On the 21st of July the last stones were landed on the rock, under a salute from the steamer, as an expression of the satisfaction felt by the commander, at having so successfully brought out no less than seventy-five lighter-loads, about 1,500 tons of stone during the season. On the 25th of July the last stone of the parapet, or top course, was built, and the balance-crane was removed to make room for the lantern.

The masonry of the tower is 137 feet 11 inches in height, and it contains about 4,308 tons of material. The day after landing the last stone of the parapet, the steamer started from Tyree for Greenock, with two lighters in tow, for the transport of the lantern; and by the 10th of August the whole was landed on the rock. From want of space on the rock, it was found necessary to build the roof of the lantern in separate pieces, instead of riveting together the pieces of which it was composed on the ground, and raising the whole in a mass as is usually done; but in spite of these disadvantages the work was brought to a close for the season on the 14th of September, on which day the glazing was completed, and the glass was covered with a framework of timber, to protect it from the sea-fowls, which frequent in myriads the rock and the tower. The workmen were on the same day removed from the rock, although with much difficulty, from being exposed to a heavier surf than had ever been encountered in an embarkation from the Skerryvore.

A harbour was now constructed at Tyree for the shelter of the vessel which was to attend the lighthouse; the necessity of such accommodation having been amply proved by the experience of 1843, when, from the difficulty of approach to the rock during the months of November and December, no communication for more than seven weeks could be effected between the shore and the seamen left in the barrack on the rock. The experience of subsequent years, during which the relief of the light-keepers has been kept up with great regularity, proves that such a harbour forms a most important part of the Skerryvore establishment. Provision was also made at Tyree for the families of the light-keepers and seamen, and both dwelling and store-houses were erected for their accommodation. On landing at the rock, on the 29th of March 1843, the resident engineer had the satisfaction of finding the whole building perfectly water-tight.

Much time was now occupied in fitting-up the interior of the tower with wainscoat lining, in providing the fire-places with proper flues, fitting up coal-stores and oil-tanks, and also in conveying the air-tubes between the light-room and the several apartments by which the signal-bells are rung for summoning the keepers to mount guard.

The keeper on duty is, by the rules of the service, forbidden under penalty of instant dismissal to leave the light-room on any pretext, until relieved by the next who mounts guard, and who is summoned by means of a bell placed inside his cot or sleeping-berth, which is rung by means of a small piston propelled by simply blowing into a mouthpiece in the light-room. The keeper in bed answers this signal by a "counter-blast" which rings another bell in the light-room, and informs the keeper there that his signal has been heard and will be obeyed. The ascent to the outside door of the lighthouse is by a metal ladder twenty-six feet in height. The first apartment on the level of the entrance-door is chiefly appropriated to the reception of iron tanks for fresh water; the next story is set aside for coals, which are stowed in large iron boxes. The third apartment is a workshop, the fourth is a provision store, and the fifth is the kitchen. Above are two stories, each divided into two sleeping-apartments for the four light-keepers. Over them is the room for the visiting officers;

then follows the oil store, and lastly comes the light-room, making in all twelve apartments. The vicinity of the oil store to the light-room is a great convenience to the keepers, who are thus spared the trouble of carrying the daily supply of oil to the light-room up a long flight of steps. The passage from story to story is by oaken trap-ladders, passing through hatches in each floor, and partitioned off from each apartment, to prevent accidents, and check cold draughts of air.

The light of Skerryvore was first exhibited to the mariner on the night of the 1st of February 1844. It is revolving, appearing in its brightest state once in every minute of time, and is elevated 150 feet above the sea. "In such a situation as Skerryvore," says Mr. Stevenson, "new wants were discovered every day; and each summer brought its round of smaller works, which the experience of the preceding winter had suggested. The barrack was found very useful as a place of residence for the workmen, who were engaged in such needful works; and it was not until the summer of 1846 that it was taken to pieces and removed from the rock, after having kept its place for six years. Its removal was then thought advisable, as some of its fixtures, by the continual action of the weather, had become very loose and precarious; and although a very small outlay would have made it almost as stable as at first, it was considered inexpedient to attempt to perpetuate a structure confessedly temporary in its nature, and the sudden destruction of which by the waves seemed to involve some risk of injury to the tower itself. In the course of the summer of 1844, a marble tablet, bearing an inscription in letters of gold, was, by order of the Commissioners, placed over one of the windows in the visiting officers' room. After acknowledging the hand of Almighty God in the success which attended the work, the inscription briefly sets forth the beneficent purposes for which the lighthouse was erected, and records the laying of the foundation-stone by His Grace the Duke of Argyll.

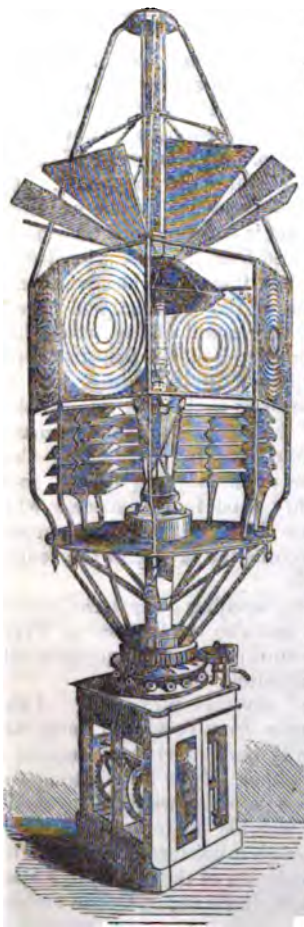
The expense of the building, including the opening of quarries and the forming of wharfs at the quarries in Mull, and also the harbour at Tyree, was 90,268*l.* 12*s.* 1*d.* We cannot conclude our history of this praiseworthy undertaking better than in the words of its architect:—

"Although in the course of my narrative," says Mr. Stevenson, "I have occasionally noticed some special deliverances from danger, I must now record the fact, that, amidst our almost daily perils during six seasons on the Skerryvore rock, there was no loss of either life or limb amongst us. Those who best know the nature of the service on which we were engaged—the daily jeopardy connected with landing weighty materials in a heavy surf, and transporting workmen in boats through a boisterous sea; the risks to so many men involved in mining the foundation of the tower, in a space so limited; and above all, the destruction in a single night, by the violence of the waves, of our temporary barrack on the rock, which had cost the toils of a whole season—will not wonder that I am anxious to express what I know to have been a general feeling amongst those engaged in the rock, that of heartfelt thankfulness to Almighty God for merciful protection during danger, and for the final success which crowned our arduous and protracted labours."

SKERRYVORE LIGHT.

The Skerryvore light will be known to mariners as a revolving light, producing a bright flash once every minute. The lantern, which is open all round, is elevated 150 feet above the level of the sea, and burns from sunset to sunrise. In clear weather the flashes of the light will be seen at

the distance of six leagues, and at lesser distances, according to the state of the atmosphere; and to a near observer, in favourable weather, the light will not wholly disappear between the flashes. Owing to the distance which foul ground extends on every side of the rock on which the lighthouse is



REVOLVING DIOPTRIC APPARATUS.

placed, and the weight of sea which breaks on the shallow ground all round it, it is necessary, in seamen's phrase, to give the light a "wide berth." In order that the greatest degree of light may be maintained throughout the night, the wicks are trimmed every four hours, or oftener if necessary, and a strict state of discipline is maintained in the establishment. The men are required to be sober and industrious, but carrying on no trade whatever; cleanly in their persons, wearing an uniform dress at certain periods, and orderly in their families. They must conduct themselves with civility to strangers who may visit the rock, by showing the premises at such hours as do not interfere with the proper duties of their office, it being expressly understood that no visitor shall be admitted into the light-room after sunset. No money in gratuity is taken under any pretence. The light-keepers have permission to go from home to draw their salaries, and attend at church; but as the attendance there is too frequently impossible, the principal light-keeper, or other principal officer, at the lighthouses in the north of England, is required to read the Scriptures and employ a form of prayer composed for their use by the Rev. Dr. Brunton, one of the ministers of Edinburgh. The salary of a principal light-keeper in the service of the Commissioners of the Northern Lights, is from forty-five to sixty guineas per annum; that of an assistant from 35*l.* to 50*l.*, with a suit of uniform clothes once in three years. At some of the first erected, the accommodation was limited to one family; to some of these a house has been added, besides which, and a sufficient allowance of fuel, there is attached to each station not less than ten acres of ground, so as to afford a cow's grass and garden for the lighthouse men. This indulgence helps greatly to relieve the monotonous life both of the families and the keepers, as during the summer months, when duty is comparatively easy, they can occupy their leisure time by adding many little comforts to a situation which is mostly desolate and forlorn enough.

"The application of the Drummond and Voltaic lights to lighthouse purposes is," says Mr. Stevenson, "owing to their prodigious intensity, a very desirable consummation; but is surrounded by so many difficulties, that in the present state of our knowledge, it may safely be pronounced un-

attainable." The use of gas would have great advantages, but it is obvious that it is by no means suitable for the majority of lighthouses, their generally distant situation and difficulty of access rendering the transport of large quantities of coal expensive and uncertain; whilst in many of them, there are no means of erecting the apparatus necessary for the manufacture of gas. There are other considerations which have led to a pause, where the introduction of gas has been recommended. However much the risk of accident may be diminished in the present, it forms a question that will not, we trust, be hastily decided, how far we should be justified in running even the most remote risk of explosion in establishments, such as lighthouses, where the sudden failure of light might prove of the most disastrous consequences.

THE DUKES OF MILAN.

THE history of the Sforza family is a remarkable one. Jacopo Attendolo, the first of the name, was born of humble parents, about the middle of the fourteenth century. He forsook in early youth his occupation of a labourer, to enlist in one of those companies of adventurers which were then numerous in Italy, and which served for hire the petty princes and republics of that age. Jacopo, having displayed great courage and perseverance, acquired a considerable reputation in the turbulent band, and after serving under various "condottieri," or leaders, attached himself to Alberico da Barbiano. This was a captain of high birth and noble views. Italy was at that time much troubled with foreign mercenaries, who plundered the towns, killed the citizens, and committed all manner of outrages. Alberico aspired to the glory of delivering his country from the oppression of these men. Raising a force of 12,000 soldiers, all natives of Italy, and supported by Visconti, Lord of Milan, the Florentines, and the people of Bologna, he marched to meet the foreign troops, and after a desperate combat utterly defeated them. Jacopo Attendolo, who by his bravery, contributed greatly to the victory, received from Alberico the surname of "Sforza," by which name, and by no other, he and his descendants have become known in history.

After being engaged in many battles, receiving various honours, and displaying much valour, the restless career of this brave but illiterate soldier terminated. He little thought that the name which he had acquired with honour on the battle-field, would eventually become that of a sovereign dynasty.

Francesco Sforza, son of Jacopo, learnt the art of war under his father. He received from Joanna, Queen of Naples, the title of Count, and several domains in her kingdom. Thinking he had been badly treated by Visconti, Duke of Milan, he led his troops against him; when the Duke, in alarm at his repeated victories, at length offered him the hand of his only daughter, Bianca, with the city and territory of Cremona as a dowry. This well pleased the ambitious Sforza; peace was concluded, and the marriage solemnized. But the death of the Duke, his father-in-law, opened a new field to his ambition, and he now aspired to the sovereignty of the duchy of Milan. The people of Milan, considering the Visconti dynasty as extinct, proclaimed the Republic. But Sforza, with the aid of the Venetians, besieged the city, and reduced by famine and distracted by anarchy, it at length opened its gates to the conqueror, who was then solemnly proclaimed Duke of Milan.

In his new dignity Sforza acted with prudence and mildness. He governed well, was desirous to promote peace, and improved and adorned the city. In his private life he was prudent, affable, and humane, and he died generally regretted, leaving two sons, Galeazzo and Ludovico, the former of whom succeeded him on the ducal throne.

But thrones won by violence and injustice seldom bring peace to their possessors, and such was the case with the Sforza family.

Milan, the capital of Lombardy, and the third city of Italy, ranking next to Naples and Rome in population and importance, stands in the midst of a vast plain at the foot of the Alps. It is a magnificent city: its chief glory being its duomo, or cathedral. This most beautiful edifice, built entirely of white marble, has a truly dazzling effect. Its snowy pinnacles with their delicate tracery, and its three thousand statues equally white, which adorn the exterior, rising towards the bright blue sky, look like some exquisite piece of sculpture executed in molten silver. From the top of the duomo there is a magnificent and extensive view of the fertile plains of Lombardy, and of the chain of Alps which borders it in the form of a crescent on the north side. The rich and glowing plains stretching out like a vast garden, the blue mountains, the lakes, and the extraordinary beauty and fertility of the country, render Milan one of the most attractive cities in Italy.

It was in the winter of the year 1476, when Galeazzo Sforza reigned in Milan, that, on the day after Christmas-day, a family party had assembled to celebrate the joyous season, in one of the best houses in the city. This was the comfortable dwelling of the rich citizen Trivulsio, who, in the pride and gladness of his heart, had gathered about him all his children and grandchildren to share in the good cheer which he had so abundantly provided for the festive occasion.

A merry group they were—these light-hearted children of a southern clime—and yet, occasionally in the midst of their merriment, a shade would cross the brow, and a sigh escape the lips, of more than one of the party. This was especially observable when the conversation fell upon public affairs; there was then a constraint and a gloom over all, which it took some minutes to dispel.

At such moments each young wife would look with tender solicitude towards her husband and children, as if she feared she knew not what; while on the countenances of the young men might be seen an expression of stern resolve mingled with fiercer passions.

"It is a sad state of things, truly," observed Trivulsio, on one of these occasions; "neither our persons nor property are safe now. How different was it in the time of the good Duke Francesco!"

"It may be worse yet," replied Antonio gloomily; "he is becoming more tyrannical and cruel every day. Innocence itself is no safeguard. Only this morning he gave orders for the execution of my neighbour Guizo's eldest son. As fine a lad as ever you saw, and as innocent of treason as that babe. It is hard to bear."

"And why do we bear it?" indignantly exclaimed the handsome young Giulio, with flashing eyes. "Why are we thus to stand in daily fear of losing all we hold dearest in life? We have bold hearts and sharp steel; who is the usurper's son that we should tamely submit to such oppression?"

"Silence, Giulio!" said his father, sternly. "How often must I bid you beware of your words, rash boy? The Duke Francesco ruled us well, and I will hear no talk of resistance to his son's authority. He is a bad man, but we are not to call him to account for his crimes, nor is mine the

house in which treasonable language shall be used. No good ever comes of conspiring against our rulers."

"I think his behaviour to his mother, the good Lady Bianca, the worst part of his conduct," said Antonio's wife, Teresa. "I cannot forgive him such ingratitude to such a mother."

"What did he do?" asked little Rosina of her parent.

"He made her life so wretched that she retired to Marignano, where after a short illness she died, it is said, of poison. Oh! no blessing can attend a son who fails in his duty to his mother!"

"If we only had such a government as they have in Florence!" said Giulio. "Such a chief as Lorenzo de Medici!"

"Ah! he is much beloved, and deservedly so," replied Trivulsio. "It were well had the Duke taken a lesson from him during his visit to Florence; but I imagine he thought more of astonishing the Florentines by his show and luxury, than of gaining any good to himself by the example of Lorenzo."

"Does Ludovico Il Moro* at all resemble his brother?" asked the young Carlo.

"Nay, he appears to have several good qualities; but I fear he is both ambitious and deceitful. But it is better not to talk of these matters, my children; too much has been said already. Come, Rosina, sing to us."

The child was about to comply, when a loud knocking was heard at the door, and immediately after two or three citizens hastily entered the apartment. They were pale and agitated.

"Have you heard, Trivulsio," said one, "have you heard of this terrible murder?"

"Murder! no! what do you mean?"

"Close by, in this very street!—the Duke Sforza has been stabbed on his way to church!"

"The Duke stabbed! Oh, Pietro!"

"It seems to have been the act of a few conspirators. Some have been seized. The body is taken to the palace."

"Well, few will mourn for him," said Giulio. "He has brought it on himself."

"Ah! it is a fearful deed!" observed Teresa. "The Duchess Bona! what a blow it will be to her!"

"I trust the murderers will be taken," said Trivulsio; such a crime is a disgrace to Milan.

"Who will be our duke now?" asked Carlo.

"Who can tell? His son Giovanni Galeazzo is but a child. We must have a regency. These are troublous times, Pietro. I cannot be thankful enough that none of my family had a hand in so foul a deed. Be assured it will not go unpunished."

It did not. All the conspirators were taken and put to death. The infant Giovanni Galeazzo Sforza was proclaimed Duke of Milan, under the guardianship of his mother, Bona of Savoy, who was made regent. But not a long time elapsed before the ambitious Ludovico stepped forward, took possession of the regency, arrested the Duchess Bona, and put her faithful minister, Simonetta, to death. Ludovico Sforza was a man whose character stood pre-eminent, even in that age, when such qualities were but too

* Ludovico Sforza, was styled "Il Moro," or the Moor, on account of his dark complexion.

common, for perfidy, ingratitude, and cruelty. He scrupled at little to serve his own ambitious purposes, and not content with obtaining the regency, aimed at still higher power. But his character, bad as it was, had in it some redeeming points. He was generous, fond of the arts and learned men, and a friend to Leonardo da Vinci. He instituted public schools, patronised distinguished scholars, founded chairs of Greek, geometry, and astronomy, and greatly embellished Milan. Still all this could not counter-balance the crimes to which his ambition led him.

One of Ludovico Sforza's favourite places of resort was the studio of the celebrated Leonardo da Vinci, whom he had invited to Milan. The natural gifts of this great artist—"the most accomplished man of that accomplished age,"—and the variety of knowledge he had acquired, were perfectly astonishing. Ardent and successful in the study of painting, sculpture, botany, natural history, chemistry, anatomy, architecture, music, philosophy, engineering, and fortification, he was yet the greatest mathematician and most ingenious mechanic of his time! To these rare endowments was added that of a remarkably handsome person, a winning address, and much wit and eloquence. His dress was always costly, his manners refined, and his conversation varied and interesting. Ludovico greatly delighted in the society of this talented man, and during the seventeen years of his residence in Milan, ever treated him with esteem and affection.

Leonardo was employed on various works for his patron—one of these, the canal of the Martesana, would alone have been sufficient to immortalize him. His wonderful and sublime painting, *The Last Supper*, occupied him two years, and was by far the grandest picture, which, up to that time, had appeared in Italy.

"And when did you first become a painter, Leonardo?" said Ludovico Sforza, one day, as he stood watching the artist at his work.

"I do not remember the time when the pencil was not a delight to me," replied Leonardo.

"Leonardo," said Sforza, "what induced thee to paint that horrible thing, the *Rotello del Fico*?* I gave three hundred golden ducats for it; yet can I never look on it without shuddering."

The artist smiled. "A peasant on my father's estate," he said, "one day brought him a circular piece of wood, cut horizontally from the trunk of a very large old fig-tree, which had been lately felled, and begged to have something painted on it as an ornament for his cottage. The man being an especial favourite, my father desired me to gratify his request; and, inspired by some wild fancy, I took the panel to my own room, resolved, if possible, to astonish my worthy parent. I determined to compose something which should have an effect similar to that of the *Medusa*, and almost petrify beholders. Accordingly, I collected together from the neighbouring swamps and the river-mud all kinds of hideous reptiles, as adders, lizards, toads, serpents, &c., and out of these I compounded the monster with flaming eyes, represented on the shield. When finished, and I led my father into the room in which it was placed, his terror and horror proved the success of my attempt."

"It is, indeed, wonderfully horrible! what could induce thee, Leonardo, to depict so fearful an object?"

"A whim, I suppose, your excellency, and the desire of surprising my father. We artists take strange fancies sometimes."

"But the peasant; what said he to the *Rotello*?"

* *Rotello* means a shield; *Fico* a fig-tree.

"He never saw it. My father sold it secretly to a merchant, who brought it to Milan; and the poor peasant was presented with a wooden shield, on which was painted a heart transfixed by a dart—a device better suited to his taste and comprehension."

"I doubt it not. But, Da Vinci, never again employ thy talents on the horrible. Depend upon it, ere long, the Rotello will perish; while such a work as that on which thou art engaged, in the church of Santa Maria, will immortalize thy name.* A mind like thine, with such a sense of the beautiful and the graceful, should depict nought else. But why dost thou lay down thy brush?"

"I am not satisfied with my work, your excellency."

"Thou never art, man. That is one of thy failings, Leonardo, that thou dost begin many things, and finish few. How is this?"

"I know not, unless it be that I can seldom realize my own conceptions, and therefore am dissatisfied."

"And yet thy industry is great. Thou wert busily engaged in writing, a while ago. May I ask what subject occupied thy pen?"

"That of engineering, your excellency. I have discovered a method of making bridges extremely light and portable, both for the pursuit of, and the retreat from, an enemy; and others that shall be very strong and fire-proof, easy to fix and to take up again. I can also construct covered waggons, which shall be proof against any force, and entering into the midst of the enemy, will break any number of men, and make way for the infantry to follow, without hurt or impediment."

"Sayest thou so? why, what a myriad-minded man thou art, Da Vinci! Let us see thy treatise: ere long thy help may be needed in such matters."

The valuable and numerous manuscripts of Leonardo da Vinci are still preserved in Milan. They are on various subjects, but particularly difficult to read or decipher, as the artist had a habit of writing from right to left, instead of from left to right. It is said that when they were shown to Napoleon, on his visit to Milan in 1797, he carried them and Petrarch's 'Virgil' to his hotel himself, not allowing any one to touch them, exclaiming with delight, "They are mine! they are mine!" King James I., of England, made an offer of 10,000*l.* for these manuscripts, but it was declined.

The young Duke Giovanni Galeazzo was now grown up, and had married the grand-daughter of Ferdinand, King of Naples. But instead of taking peaceable possession of the ducal throne of Milan, he was prevented doing so by the intrigues and artifices of his uncle, Ludovico. One crime leads to another. He who had usurped the regency, now aspired to sovereign power, and basely and treacherously meditated the destruction of his nephew, that he might get possession of the duchy for himself. This, however, he did not openly dare to do, fearing the vengeance of King Ferdinand, but he would allow Galeazzo no share in the government, and confined him and his wife to their own apartments. Ferdinand, indignant with his conduct, remonstrated and threatened; and Ludovico, to avoid the storm, and give the old king something else to think of, in an evil hour for himself, invited and encouraged Charles the Eighth, of France, to undertake the conquest of the kingdom of Naples. He willingly agreed; and this was the origin of all the wars and calamities of Italy in the sixteenth century, with the total loss of her political independence.

* In the subsequent troubles of Milan, the Rotello was destroyed, as an object of horror.

It was a sad day for Italy when the French armies landed on her shores, and ere long Ludovico Sforza bitterly repented his rash invitation. He went to meet King Charles, and stayed with him till he was assured of the success of a dose of poison, which he had a short time before found the means of giving to his unfortunate nephew. As soon as he heard that Galeazzo was dead, he hastened back to Milan, and took possession of the duchy he had so long coveted.

The inhabitants of Milan were much shocked at the suspicious death of their young duke, who was only in his twenty-fifth year; nevertheless, Ludovico II Moro was peacefully proclaimed.

And now that Ludovico II Moro was, as he imagined, securely seated on the ducal throne of Milan, perhaps you may think he was a happy man? Far from it. It was now his troubles began.

Amongst the nobles who had accompanied King Charles to Italy was the Duke of Orleans. He saw the fair duchy of Milan, and immediately raised some hereditary claims to it. Ludovico now perceived the danger to which he had exposed himself by soliciting foreign aid. With some difficulty he repulsed his rival; but the fertile plains of Lombardy were too goodly a prize to be forgotten.

When, by the death of Charles, the Duke of Orleans became king of France, as Louis XII., he sent an army to the conquest of Milan. The Venetians and the Pope joined the French; Sforza was obliged to yield to the storm, and took refuge in Germany.

"So we have a new ruler, now," said Trivulsio, one day, in the summer of 1499; "I find the king of France is about to enter our city in his ducal robes, as lord of Milan."

"Yes," replied Giulio, "he soon crossed the Alps when he heard of his general's success. It was an easy conquest. I wonder if he has really any claim to the duchy."

"I know not. It is certain, however, that Ludovico II Moro had none."

"No. He did not long enjoy his usurped dignity, father."

"Ah! my son. Honours obtained by unfair means cannot be depended on. They bring neither security nor peace."

"But yet," said Giulio, after a pause, "I would the duke were back again. The thought of being governed by these foreigners is unendurable."

"They are certainly not the rulers for Milan; and if they treat us as they did the Neapolitans, it is my opinion they will not long continue so," replied Trivulsio.

After a sojourn of three weeks in the city, King Louis returned to France, thinking he had arranged affairs satisfactorily. The French, however, soon made themselves as much disliked in Lombardy as they had been in Naples; and, disgusted with their tyranny and oppression, the Milanese revolted. They were driven away, and Ludovico Sforza once more entered his capital.

But it was not to enjoy peace. Louis sent fresh forces into Italy, and Ludovico was not only defeated, but taken prisoner. His restless ambition, which had led him into the commission of so many crimes, was now visited with a heavy punishment. For the remainder of his life he was kept a close captive in the solitary castle of Loches, in France.

But the evil of what he had done did not end here. The possession of the duchy of Milan was a constant source of dispute between Francis I., successor to Louis, and his great rival, Charles V. After many years of war in Italy between the French, Germans, and Spaniards, Lombardy fell into the hands of Austria, and the House of Sforza became extinct.

BIRD-CATCHERS IN SYRIA AND EGYPT.



BIRD-catching is a profession in the East, studied and followed up from childhood with as much earnest assiduity as the more occult sciences are studied in England. The acme of a Syrian lad's ambition is to become an adept in the peculiar art he practises; and certainly few avocations can hold forth so many enticing inducements as that of bird-catching does under the clear sky and the congenial climate of the northern parts of Syria. Apart from the natural instinct born and bred in boys long before even their school-day troubles commence; I say apart from the innate attachment existing between children and salt-boxes and bird-baits there is an enthusiasm which swells the breast of child, boy, and man, when in the pursuit of the free-winged denizens of the air. In the first place the chase is a healthy recreation from the exercise it imposes, the healthy excitement it gives to the mind, the exposure to the open air and mild, sweet atmosphere of the East; but it has additional charms to the poor peasants of Syria and Egypt. On their success and skill much depends, sometimes even the daily crust of bread for themselves and their starving offspring. It is not, then, surprising that in those countries they have invented many singularly skilful, though by no means fair methods of entrapping birds, and they find a ready market for quails, partridges, frankolins, and even thrushes and poor little skylarks, amongst the many Europeans now established in those parts, and who amongst their varied cosmopolitan accomplishments (this especially of the English) have an acquired facility of stifling any small dictates of conscience, a keen appetite,

a capital digestion, and a happy knack of soon becoming initiated with the peculiar cookery of the parts and people they live in and with—gourmands, feasting on a greasy pillauf with as much gusto as an alderman at turtle fare. Birds-nesting, the most unpardonable of juvenile felonies, barely exists in the East; in Syria it is scouted at as *uctai* (*uktai*) i. e., a wicked sin; but bird-snaring is countenanced and encouraged after the birds are presumed to have reared their offspring and sent them forth to battle with the world on their own account, and when the mischief they commit amongst orchards and fields render them a perfect pest and nuisance to cultivators. Boys hail the early approach of spring with joyous delight; preparations commence on a large scale for the season, of a general action against the feathered tribes; last year's dibbucks are carefully inspected and freshly coated over with a glutinous material, being a composition of rosin, glue, and the thick molasses yielded by the grapes when they are boiled down into the substance called *dhips*, or *washmame*. These are then arranged in cases such, both in shape and material, as are used for arrows; and with these quivers full of freshly-coated dibbuck rods, the ardent boy, and not less anxious man, watch for the arrival of the proper season. But this is only a very primitive method of bird-catching, and these rods secure to the boys only such small fry as goldfinches, tree-eaters, and some other small birds, wholly insignificant as regards the profits hoped to be reaped from them. It is true that late in the season the wild dove and gorgeous yellow mountaineer occasionally entangle their downy plumage with the thickly-smear'd glue rods of the willadeen, or children, and so fall an easy prey; but these cases are rare, and even then such is the strength of these birds that they oftentimes carry off dibbuck and all. But the grand stand-by of the people, both men and boys, the draft which yields them a supply of cash, besides a supply of tender and delicious food, is the entrapping of game, such as the quail, the speckled thrush, and last, though by no means least, the fine-flavoured frankolin, that specimen so rare and so wholly confined to the districts which constitute the Pashaliks of Adana in Asia Minor, and Aleppo in North Syria. The frankolin is a species resembling both the partridge and the pheasant, and yet unlike both. In shape it much resembles the partridge, save that it is a larger bird; in plumage it is like the pheasant, with peculiarities in the fine black and gold-bespangled breast of the male; in flavour unique, and superior to any known game in any other part of the world. To secure these larger birds is the aim of the peasant and his children: guns are rare, gunpowder dear, and even when possessed of both, dogs and a good aim are still wanting. Some few old men who are professionally sportsmen—a sad misnomer!—steal forth at very early dawn, sheltered from the quick sight of the birds, behind a light wicker-frame screen, stuck over with pieces of old rags and odds and ends of paper; through this screen he has several eyelit holes, large enough to admit of the barrel of the gun being inserted, and by this contrivance he endeavours to draw near to the haunts of partridges and frankolins, who are accustomed to the browsing of cattle in their vicinity, seldom take alarm at the warily approaching sportsman, and so fall an easy victim to the terrific slaughter of the broadside fired from the screen at them when barely three yards from the muzzle of the gun. The man, however, has to walk far and long before he meets with a chance shot, and the usual results of a day's sport barely repay him the fatigue and trouble. But the grand coup is the “*seid il durratchi*,” or the quail hunt; to prepare for this, mother's wardrobes are ransacked, father's old trousers turned to

account, and amidst the scolding of the one and the merriment of the other, the boy decks himself out as a hawk! that is to say, he supplies himself with two pieces of stick, which are fastened to the shoulders, and from which hang the long white izar^s used by their mothers and sisters as veils, and which now serve the purpose of wings. Having made all things ready, a party of from ten to a dozen of these boys sally forth to fix upon an appropriate piece of ground, one which is likely to yield good sport. The ground generally preferred is that where furze and bushes abound, and where, in a central position, an accumulation of myrtle bushes afford a capital shelter to the frightened birds; should any tree grow in the middle of these myrtles it is instantly lopped down, because otherwise it would interfere with the net and give the birds an opportunity of escape; having arranged all these preliminaries, the boys wait with impatience for the arrival of the proper season. At length—

“The winter is past, the rain is over and gone. The flowers appear on the earth; the time of the singing of birds is come, and the voice of the turtle is heard in our land; the fig-tree putteth forth her green figs, and the vines with the tender grape give a good swell.”*

Now the young sportsmen assemble under their experienced leaders, one of whom carries the large closely-formed net, the other the huge bag which is to contain the proceeds of that day's sport. When within a certain distance of the place indicated, the lads disperse, and creep softly round till each has taken up his position. Having formed a wide circle round the bush indicated, at a given signal the sport commences; the huge wings are heavily flapped about in poor imitation of the eagle and the falcon, and at stated periods a piercing shriek bursts simultaneously from the lads. The startled quails and frankolins, the not less frightened partridges and thrushes, fly up into the air; but no sooner do they catch sight of the direful-looking wings of what they presume to be huge birds of prey, then they as quickly, and as if shot, drop under cover of the reeds and bushes again, and, relinquishing the wing as futile, trust to the swiftness of their legs for escape. Thus they are running from all sides towards the central bush, and here they crouch, and conceal themselves in trembling fear as the huge wings now rapidly surround them. When at a certain distance, the boys stop, lest a too near approach might drive the frightened birds to desperation, and cause them to fly off and escape. The boy with the net now flings it high over the bush, the heavy leaden weights bring it down with a mighty crash; the boy's wings are now thrown aside, and a rush is made upon the snared birds, sometimes one, sometimes two, and sometimes several scores of quails, frankolins, and thrushes, are thus secured at one throw of the net. The spoil is equally divided, some sold to furnish luxuries to the tables of the wealthy, some kept in cages and very soon domesticated, whilst the rest repays the fathers and mothers of the young sportsmen for rents or soil-fees on the izar^s and sherwals, lent as an investment in the speculation of bird-catching.

CONTENTMENT produces, in some measure, all those effects which the alchemist usually ascribes to what he calls the Philosopher's Stone; and if it does not bring riches, it does the same thing by banishing the desire of them.—ADDISON.

* Cant. ii. 11, 12, 13.

ODE ON THE DUKE OF WELLINGTON.

By JOHN WILSON CROKER, Esq.

Written in the Year 1814

VICTOR of Assaye's orient plain,
Victor of all the fields of Spain,
Victor of France's despot reign ;
Thy task of glory done !
Welcome from dangers greatly dared ;
From triumphs with the vanquished shared,
From nations saved and nations spared ;
Unconquered Wellington.

Unconquered ! yet thy honours claim
A nobler than a conqueror's name,
At the red wreaths of guilty fame
Thy generous soul had blushed.
The blood—the tears—the world has shed,
The throngs of mourners—piles of dead,
The grief—the guilt—are on his head,
The tyrant thou hast crushed.

Thine was the sword which Justice draws,
Thine was the pure and generous cause
Of holy rites and human laws,
The impious thrall to burst.
And thou wast destined for thy part !
The noblest mind, the firmest heart,
Artless—but in the warrior's art,
And in that art the first.

And we, who in the eastern skies,
Beheld thy sun of glory rise,
Still follow with exulting eyes
His proud meridian height.
Late, on thy grateful country's breast,
Late may that sun descend to rest,
Beaming through all the golden west
The memory of his light.

THE RAIN-DROP.

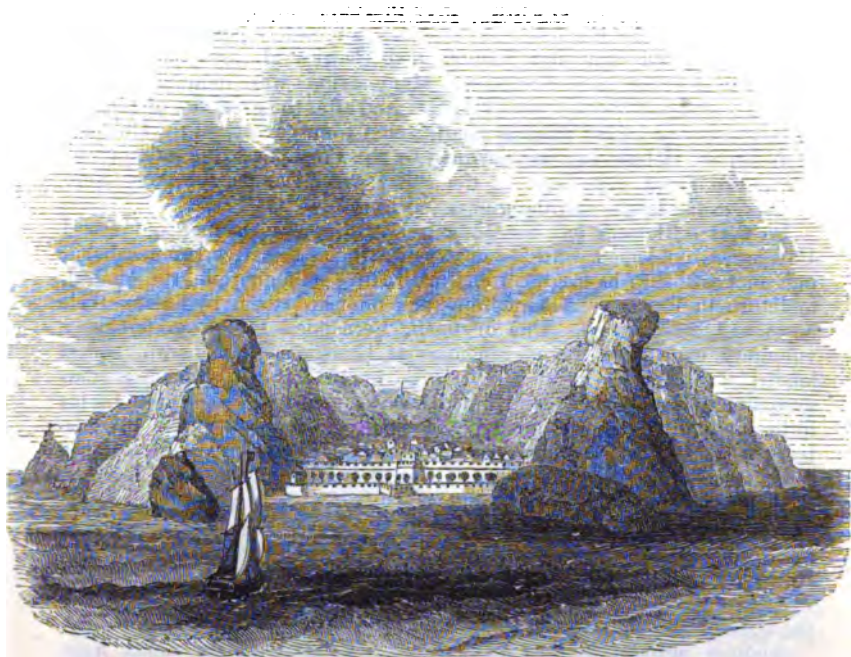
A LITTLE particle of rain
That from a passing cloud descended,
Was heard thus idly to complain,
“ My brief existence now is ended !
Outcast alike of earth and sky,
Useless to live, unknown to die ! ”

It chanced to fall into the sea,
And there an open shell received it ;
And after years how rich was he
Who from its prison-house relieved it.
The drop of rain had formed a gem,
To deck a monarch's diadem.

THE
HOME FRIEND;
A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION

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ST. HELENA.



ST. HELENA, a little island, some eight miles long, twenty in circumference, and situated in the Atlantic Ocean (S. lat. 16°), is of more importance in the map of the world than, from its size and resources, might be expected. It has most aptly been named by an old writer, "The Inn of the Sea," for, during the wintry gales, from March till August, which render anchorage at the Cape of Good Hope so perilous, homeward-bound vessels from the southern seas, find safe harbour here, and leave their merchandize in exchange for such provisions as the islanders can spare.

VOL. II.

Since the establishment of the "overland route to India," the commercial interests of St. Helena have suffered severely; and whereas, in the old "shipping season," James Town presented a scene of bustle, excitement, and of that deep enjoyment of rest on shore which only those who have made long voyages can appreciate, the arrival of trading-ships now-a-days is a mere matter of competition among a few merchants.

The tomb of Napoleon, when it contained its illustrious tenant, was an object of deep interest to voyagers, especially to the French; and many a little band have I seen marshalled for a march to the valley where he lay, and there, kneeling round the grave, soldiers and sailors, with tears and prayers, would oftentimes leave their crosses of the Legion of Honour, as an offering of homage to the dead.

This island was discovered in 1502 by the Portuguese, under Admiral Pimmel. It received its name from having been descried on St. Helen's day. The Portuguese, it is said, succeeded in concealing the existence of the island from other nations till 1588, when it was observed by Captain Cavendish, on his return from a voyage round the world. It next became known to the Dutch, who settled there in 1600, but they were again deprived of it by the English. After being alternately possessed by both nations, England kept her ground, and Charles II. assigned it by a charter to the East India Company. Many settlers were induced by offers of land to emigrate thither from England, and after the great fire of London in 1666, several ruined families sought relief from poverty in St. Helena.

When St. Helena was first tenanted by the Portuguese, the interior was one entire forest, and many of the rocky precipices on the coast were covered to the brink with the gum-wood tree.*

Its first settlement has been ascribed to the circumstance of several Portuguese noblemen, who had deserted to India, to native princes, being put on board ship in disgrace, and ordered by Albuquerque, the admiral, to return to Europe. Albuquerque had punished them by having their noses and ears cut off. One of them, Fernandez Lopez, preferring a voluntary exile to a life of ignominy at home, was at his own request landed at St. Helena, with a few slaves, in 1513. His shipmates, commiserating his sufferings, contributed such comforts as they could to his forlorn situation. Hogs, goats,† and poultry were landed for his sustenance, and it is pretended that partridges, pheasants, Guinea and pea fowl, were let loose in the woods; but this latter must have been an after-thought. Lopez and his followers planted fig, lemon, orange, and peach trees; the last named are now so common as to be food for pigs in the fruit seasons. By the skill of Lopez in botany and gardening, the fruit-trees were brought to great perfection, and after four years' exile he was ordered home; but the spots he had cultivated continued to supply the ships of his country with refreshment and provision.

Another account informs us that the sick left there by Lopez were solaced by the arrival of a hermit; "but he," says the tradition, "preferred the pleasure of hunting (*shooting* doubtless) before his duties, and so was sent for back again." Sometime afterwards "two Caffres from

* "It is remarkable," says Beatson, a former governor of St. Helena, "that a species of gum-wood tree (*Conyza gummifera*), which is indigenous to the climate of St. Helena, and which has not, I believe, been discovered upon the opposite continent of Africa, has been found upon Gough's Island and Tristan d'Acunha."

† To the goats is attributed the total ruin of the forests.

the Cape, and an inhabitant of Java, having made their escape from some Portuguese vessels, with two women, into this island, multiplied there to the number of twenty, who, keeping themselves at the top of some inaccessible rocks, came down at certain times and killed the sick Portuguese, taking what they found away; but some forces arriving on the island, the murderers were seized and carried to Lisbon."

How true this may be it is impossible to say, but the strange admixture of races in St. Helena quite justifies the notion of Caffres having been there in olden time.

There are various opinions as to the origin of St. Helena. There is no doubt that the island is the result of volcanic eruptions; but whether it once formed one vast continent with Ascension, Tristan d'Acunha, and Gough's Island, or is the remnant of a large island, cast up from the sea by subterraneous operations, it is now difficult to determine. Mr. Forster, a creditable authority, is of opinion that it existed before it was attacked by volcanoes.

The hills nearest the sea are from eight hundred to one thousand four hundred feet in height: those inland rise much higher. Diana's Peak, the most elevated part of the central ridge, vulgarly called "the Devil's Backbone," running from south-west to north-east, is two thousand six hundred and ninety-seven feet above the level of the sea; and for more than a year and a half I occupied, with my husband, an officer commanding a detachment of the ninety-first regiment, at High Knoll, a fortified habitation, perched one thousand nine hundred and three feet above James Town.

It is a remarkable circumstance that, contrary to the ordinary course of nature, while the high lands here are green and fertile, the valleys are comparatively barren, growing more so towards the sea: it is this which gives to the island such a desolate aspect from the ocean.

Mr. Foster accounts for the entire absence of thunder and lightning storms at St. Helena, by the fact that the highest hills or rocks are a kind of lava, and therefore non-conductors.

The chasms or valleys which divide these hills, running from the central ridge to the sea, differ materially, in aspect and character, from each other. Here a vast solitude of arid rocks, evidently of volcanic formation, presents itself—of such a nature is "the Devil's Punchbowl;" there, verdant hills, with silver rills stealing down their sides, relieve the senses with their odoriferous beauty. The valley in which the ashes of Napoleon reposed so many years, is exquisitely fertile, and yet lies near the Punchbowl. Above you hangs a tremendous cliff, below sweeps a grove of lemon-trees; yonder is an orchard loaded with European and tropic fruit. We can hear the sighing of the trade-wind through the pineasters (Scotch fir) which fringe that slope, terminating in fantastic rocks; and for what may be called Satanic beauty, we must toil further, and look upon "Lot, Lot's wife, and daughters," a group of rocks forming an extraordinary feature in the scenery near Sand Bay. So wild is the character of the vast chasm in which they stand, that in viewing it for the first time, one feels one's self transported to a new planet.

Pause till eventide amid this indescribable scenery, and mayhap you may have a glimpse of a lunar-rainbow. We had, in 1836-7, two opportunities of witnessing this radiant phenomenon, as it spanned, for twenty minutes, the humble burying ground of the poor Chinese husbandmen.

Men interested in the studies of astronomy, geology, mineralogy, and

botany, have at St. Helena one of the finest fields for speculation in the world; and it is remarkable that our scientific societies should have taken so little interest in such a locality. Halley, indeed, passed some time at St. Helena, and added materially to his stock of knowledge; but the various ores, the singular varieties of strata, the grand, abrupt, basaltic elevations, of which "Lot" is the chief; the clays, manifold in colour and character; the specimens of *marine* shells found on the *summits* of the hills; the lava and cinders scattered among the indigenous plants, the various proofs of successive changes in the nature of the soil—these, and more than these, demand, for the sake of science, a closer inspection than has hitherto been bestowed on them; and in this particular age, some attention is due to a report made in 1715 by a Spanish priest and his companion, an engineer, who visited St. Helena on a tour of research. A long residence in Mexico and Peru entitled the authors of this report, made officially to the governor, to some credit.

They declared their opinion that the island contained "rich mines of metal," and they pointed out to the Governor, several places in a stony soil where there were "indications of a gold-mine."

Metal of various kinds is supposed to exist in Turk's Cap Valley, and it was thought that the Spaniards would have succeeded better in their researches on this spot, if the shaft they sunk had commenced at the foot of the hill, instead of the summit. Be this as it may, it would be worth the while of the Royal Society to institute an inquiry on this subject; there are on the island many intelligent, and some scientific persons, who would do no discredit to such a commission.

My space being exceedingly limited, I must hasten to describe the principal spots marked on the map accompanying this article.

You must therefore imagine yourself, my reader, landed with me on the glaciis, surrounded by the Lascars employed about the shipping. How the tropic sun—reflected by the illimitable sea on the one hand, by bold, red rocks on the other—scorches our faces and debilitates our frames! We breathe again on entering James Town, though between this and the hill-tops, there averages a difference of ten degrees in the thermometer. It consists of three streets, shaped in the form of a Y; the stem of the letter may represent the principal thoroughfare, built with some attention to regularity.

Pray observe the valley, or rather gully, in which the town lies; it is clear—from the corresponding layers of strata, especially of that red vein of clay in Ladder Hill, on our right, with those of Rupert's on our left—that James's Valley is a chasm which has been suddenly formed by a volcanic convulsion.

The inclined plane at Ladder Hill is the more striking as a specimen of art, from its connexion with the wild rock on which it rests; it saves many a weary journey from the town to the fortifications above, bristling with guns and manned by artillery. There are, however, some half-dozen Chinese on their winding way up the hill-side, who take no advantage of the plane, and the patient mules, working the simple machinery by means of a capstan-bar and a rope, at the top. Verily, in looking on these Chinamen, one is involuntarily reminded of the old willow-patterned blue plate of one's nursery table; there they are, with their long tails, their loose dresses, their wide trousers, and their *snub*-toed shoes, and a bent bamboo on their shoulders with a basket at either end. They have sold their goods, eggs and potatoes, or poultry and huge cabbages,—the poultry

at from seven to ten shillings a couple, the cabbages at a shilling each—and are taking back their baskets. At one end of the bamboo hangs the one, laden with household stores, at the other the basket is filled with stones for ballast! They heed not the old St. Helena proverb, that “A man may choose whether he shall break his heart in going up-hill, or his neck in coming down,” for they never seem heated or out of breath, or disordered in their dress or aspect. They are famous farmers, and when other people’s chickens fail, or crops fade, they, by their cleanliness and tenderness as regards the one, and their patience in irrigating the other, have always a good stock of poultry, eggs, potatoes, pumpkins, bananas, &c., for the shipping. To watch a Chinaman feeding his chickens, tending his sick hens, changing their nests and provisions, and doctoring his colonies of young, old, diseased, and convalescent, affords an excellent lesson to the economist of food under limited circumstances.

These quaint-looking husbandmen were established on the island by the East India Company, but are greatly reduced in numbers.

At the head of James Town is the waterfall: here it is said the great crater existed which split the island into so many chasms, as to give it the appearance of a huge cake from which manifold slices have been cut. Beyond this lies Plantation House, the charming residence of the Governor. Below the waterfall is the Briars, the first habitation of Napoleon, who set foot as a prisoner on “the accursed island” (“*L’isola maladetta*”), as he termed it, on the 16th of October 1815; dying at Longwood on the 5th of May 1821. (His remains were exhumed with great ceremony by order of Louis Philippe, on the 16th of October 1840.)

The traveller’s first exploring ride, even at this day, on landing at St. Helena, is eastward, up that barren road leading to Longwood, celebrated for centuries to come as the residence of him who would fain have conquered the world. The great wood marked on the map was once a forest, it is now dotted with a few gum-wood trees: geologists are of opinion that an inspection of this plain would lead to some valuable discoveries, or at least to some plausible deductions, not merely concerning the original formation of St. Helena, but of islands in general.

West of Longwood is the Devil’s Punchbowl: this is also the remains of an immense crater. West of this again is the pretty valley, shaded by willows, redolent with the odour of tropical plants, and watered by the little fountain which so often refreshed Napoleon, as to elicit a proposition from him, that if he lived he would crown it, in testimony of the relief it afforded him! Here “they buried him.” On the southern side of the central ridge are numerous pretty homesteads, highly cultivated, and presenting the more curious appearance to the spectator from the mixture of tropical with the European plants in which they are embosomed; and amidst the dense foliage of the “brave old oak,” the lovely camelia tree, the sturdy holly, the African lilac, the gigantic Norfolk pine, the prickly-pear bush, and the “sad acacia,” may be heard the cooing of the little ground-dove, the whirr of the golden pheasant’s gorgeous wings, the call of the dauntless red-legged partridge, the song of the yellow-breasted canary, and the sharp twitter of the avre-de-vat and Java sparrow. The most singular winged creature at St. Helena is the wire-bird: it is believed to be peculiar to the island.

Friar’s and Lemon Valley are interesting localities, and, I cannot help thinking, must have been some of the first spots brought under cultivation.

On the ridgy boundary of Friar's Valley is a singular group of loose rocks, which at a distance has every appearance of a friar in his flowing robe, and with his cowl thrown back. Close to "the Friar" is a spot named "*Eternity*," by whom so named, tradition saith not; it is covered with grave-stones, and is, in my idea, the remains of a burying-ground, near a rude chapel, built without a foundation. On the south side of this ridge is a fertile valley, in which are the remains of a grove of lemon-trees. Within the last few years, I am told that this valley has been tenanted by those unfortunate Africans who have been liberated by British ships of war from their pirate tyrants, trading off the west coast.

Rupert's Valley also contains a depôt for these poor creatures, several of whom were sent to the Cape in 1846, and did some service during the odious Kafir war.

The little islands, dotting the ocean which laves St. Helena, are mere rocks. Sandy Bay, to the south-west, is the abode of a few poor fishermen: lime is found in the neighbourhood, and some of the coloured population earn a livelihood by bringing it round in boats to James Town. There is, however, very little traffic among the islanders, whose gains depend chiefly on what they can sell to captains and passengers of ships.

So extraordinary a phenomenon occurred at St. Helena in the year 1846, that I think the account of it will be read with interest: the circumstance has baffled all the speculations of philosophers, who, from the island having remained some hundred years in a settled state, imagined that all volcanic operations were at an end—"that," to use the language of one writer, "the subterranean vaults had been overflowed and obliterated by the ocean."

One would imagine, from the following singular account, by an eye-witness, of the sudden rising and action of the surf, that the last-named process was in actual operation when, on the night of the 16th of February 1846, the waters rose so high as to alarm the inhabitants with the dread of an earthquake. "The rollers," as these tremendous waves were called, "drove everything before them. At daybreak on the 17th, the sea in front of James Town was a sheet of foam; the harbour was full of shipping, and among the vessels were eighteen slavers, some of which had been sold, and others partially broken up. About eleven o'clock A.M., the 'Decobrador' was lifted from her anchors, and, falling broadside over the 'Cordelia,' both were carried forward to the sea-guard gate. A ship-keeper named Seale and his wife were on board the Cordelia at the time, and both must have perished, but for the bravery of an American seaman, who, taking a rope in hand, succeeded in gaining the vessel, whence he jumped overboard with Mrs. Seale in his arms; both were then drawn ashore, and a Lascar performed the same kind office for Seale. Ship after ship soon yielded to the force of the waves. At one moment a vessel, with her lower spars standing, was lifted up in the air, the next, she was floating in ten thousand pieces on the surge; but the most singular circumstance attending the phenomenon was, that several merchant-vessels, lying at anchor clear of the rollers, were becalmed. There was not a breath of wind; the weather was sultry, and occasionally a few showers of rain fell. The fishermen out at sea knew nothing of what had taken place till they returned to the land.

"The noise produced by the breaking of the surf upon the rocks was deafening; and when, as a wind-up to the appalling scenes of this memorable day, the sea burst in crested waves over Rupert's Battery, and

carried off a twenty-four pounder and the platform on which it rested, the roar of the element was terrific.

"On the evening of the 17th the waters gradually subsided, and by noon on the 18th the effects of the phenomenon were all that marked the fearful visitation.

"The islanders had had some slight warnings of the occurrence; the oppressive heat of the atmosphere, and the rising of the barometer, an unusual thing at St. Helena, had attracted the notice of some of the old people. The cessation of the south-east trade-wind had been observed with some disquietude for ten days previously, and some had compared the state of the atmosphere with their experience of the earthquakes in the West Indies."

I could fill many a page with "Recollections of St. Helena," from the moment when, in February 1836, I saw the royal standard of Old England supersede the Company's bunting at Ladder Hill, till we set sail, homeward-bound, in the "good ship Auckland," in July 1839; but my space, as I said before, is limited. I must, however, claim permission of the Editor of the "Home Friend" to offer the following interesting sketch of "Forms and Ceremonies at St. Helena, nearly a hundred and forty years ago."

"The chief and only town," says Beckman, in his 'Voyage to St. Helena,' "lies in Chapel Valley. Here the planters live during the shipping season; at other times they keep up in the country. The Governor-General resides at the castle (on the glacis I have mentioned), which is fortified, but sometimes at Plantation House.

"They have but one church in the town, and use great formality in going thither; for about nine o'clock in the morning, the council, the ministers and their wives, together with such commanders of ships as have a mind to it, do wait upon the Governor; after which, a bell being ordered to be rung, a company of soldiers with a serjeant—all in good liveries—are drawn up in the castle, where they make a lane (resting on their arms) as a passage: then comes another serjeant and a company, which march by beat of drum before the Governor to church: after follow the gentlemen and ladies in their respective order. As soon as the soldiers get into the churchyard (or square), they fall off to the right and left, making a lane to the church door."

PASSAGES FROM THE JOURNALS OF AN OLD TRAVELLER.

BILLIJK.—A TURKISH LEGEND.

THE WONDERFUL DERVISH OF LEDJ GAZI.

We were at the romantic old Turkish town of Billijk, in Asia Minor, at the distance of a long day's journey from the city of Brusa, and were there hospitably entertained several days by a Catholic Armenian merchant of the place, in which is carried on an extensive trade in silk.

The rough old town is most picturesquely situated at the head of the Kera-Derè, or Black Valley, a very long mountain pass, full of enchanting and majestic scenery. Part of the town stands on a ridge of rocks, and an elevated plateau beyond them; and parts stride down two deep chasms, to the level of the mountain streams which flow through the Black Valley, towards the Euxine or Black Sea. Domed mosques and tall white minars

rets rise in every quarter of Billijik, and give great beauty to the prospects. On a detached rock, which rises out of the deep valley like an island, stand the picturesque ruins of a grim old castle, built by some Greek Emperor at the earlier part of the middle ages. We were conducted to these ruins by Rait Bey, a young Turk of rank, and in the employment of Government. He was a gentle and honest-hearted man, deploring mischiefs and acts of tyranny which he could not prevent, and living on the most friendly terms with the respectable Armenians of the place. His education was far superior to the generality of Turkish effendis; he had travelled a great deal in these desolated Asiatic provinces; he had a perfect passion for ruins and all other remnants of antiquity; he had been a great collector of local legends, and these he related with uncommon gusto.

After climbing among the ruins of the castle of Billijik, and peeping into a strange subterranean passage which ran from the castle keep to the bottom of that rock, and to the brink of a clear rapid stream, we returned to the town, and our kind Armenian host invited the Bey to come and dine with us. The pleasant Turk came at once, and we had a merry dinner and a long pleasant evening, enlivened by the recital of Turkish legends.

The taste for this sort of narration is common enough in the country; but usually the Turks who tell the stories firmly believe in them, and are angry if you interpose a doubt. Rait Bey related them as curious illustrations of popular manners and superstitions, telling them like an historical or poetical antiquary, or as Sir Walter Scott might have done if he had been born a Turk, and had only had a Turkish education. M. Garalet had tried to tell us the legendary origin of the queer name, Billijik, but he had not made much of the story. The Bey now told it with great gusto:—

“In the old time there were two great Derè-Bey, fierce, warlike, powerful, cruel to all men, and full of hatred the one against the other. Mulek Bey lived in a strong castle to the eastward, below the Kera-Derè, or Black Valley: Courtchid Bey lived to the westward, in a very strong castle on the mountains, between the deep ravine of Billijik and the lake of Nicæa. They had done one another all the harm they possibly could do, as their fathers and grandfathers had done before; they had destroyed cattle, burned houses, cut down fruit-trees, and carried away slaves, the one from the other; they had met in open battle, they had laid ambuscades for one another, but although each bore on his body the marks of his enemy’s sabre, neither had been able to destroy the other. They were so wicked and cruel that they could only be compared the one to the other. Poor people, talking of Mulek Bey, would say that he was as cruel and wicked as Courtchid Bey; and in speaking of Courtchid, they would say that he was as bad as Mulek, and more could not have been said.

“Quiet, innocent God-fearing people, who lived in the country between the two castles, long wished and prayed in vain that some end should be put to these feuds. At last a dervish, who was returning from Mecca, and who had the gift of working great miracles, came to the castle of Mulek, below the Black Valley, and spoke words of peace and reconciliation. At first the proud and fierce man vowed that he would never be at peace until he had torn out the heart of the hereditary foe of his house, and he threatened to throw the dervish from the top of his highest tower; but as he was gnawing with very rage the ivory handle of his yataghan, the thought came into his wicked head, that by feigning a reconciliation he might get an opportunity for slaying his enemy; and there was a tag of old Turkish rhyme which said, ‘If you want to destroy your foe, pretend to be his friend.’”

And thereupon, changing his aspect and his language, he despatched the dervish up the Black Valley with offers of peace and amity. 'If I can once get within the walls of the accursed Courtchid's strong castle, I shall be satisfied; for then he dies!' So said Mulek Bey to himself. At first Courtchid Bey was as furious against the dervish as Mulek had been; but the same wicked thoughts came into his mind, and he also deceived the dervish, and feigned a sudden desire to be at peace and live in amity. 'Oh! dervish,' said this Derè-Bey, 'I have a young son that hath no wife; Mulek Bey hath sundry daughters; let there be marriage between our houses, and then we shall be the best of friends for evermore.' The good dervish retraced his steps through the Black Valley. 'The accursed Mulek is not so strong a man as I am, nor is he so brave; but he is cunninger than the great serpent. To prevail over him I must be more cunning than he. If he consents to this marriage I shall find the means of destroying him!' So said Courtchid Bey to himself. When the good dervish had reported the friendly words of Courtchid to Mulek, the heart of Mulek was glad; for every hour that the dervish had been away he had been pondering how he might gain access into the strong castle of his foe, and he had devised the same plan of marriage. The good dervish went and came between the two great chiefs until all things were settled, and the wedding-day was fixed. Courtchid Bey sat on the top of his great tower, like an eagle on the rocks, looking with eager eyes towards the Kera-Derè pass. 'Mulek is coming! his footsteps will soon be within the threshold of my gate! The accursed Mulek is coming, and bringing with him his sons and his daughters, his wives and his maid-servants. Ah! Mulek, thou art but a fool in the end! I will not leave a drop of life-blood in any of thy stock. The best of thy wives and female slaves I will keep for myself, and the rest I will sell to the Kurds!' So said Courtchid Bey to himself on the top of his tower; and at this very season Mulek Bey was coming up the valley.

"Instead of bringing his fair young daughter, he had dressed up a dwarf of marvellous strength, agility, and cunning; and instead of bringing his whole harem, he had dressed up thirty of the strongest and bravest of his delhis; and these desperate cut-throats, with white shalvars and silken robes, with shaven beards and yashmacs over their faces, were now riding up the valley, in covered arubas, such as great ladies used and yet use; and only Mulek and two of his elder sons, with their horse-boys, and some poor slaves who guided their arubas, were clad in male attire. Mulek, who had never been seen to laugh before, could not but laugh now, his heart was so light, and the disguise so very laughable. The delhis, dressed as ladies and female slaves, laughed also as they looked at one another through the eye-holes of their yashmacs, and heard the merriment of their chief. When they came to the spot which is now covered by the town of Billijk, but which was then a lone place, the delhis alighted from the slow arubas to stretch their cramped legs, and to sharpen the edges of their yataghans upon the faces of the hard rocks. The verb to sharpen is in Turkish 'Billijk;' and from this sharpening of the yataghans the place took its name. 'When we are within Courtchid's castle-walls, and I cry out Billijk!' said the joyous Mulek to his women-dressed men, 'then fall on and strike at the heart; only leave my foe to me and my eldest son. Oh! Courtchid, thou art but an ass! I will slay thee and all thy children; I will take thy fairest wives and female slaves to my own harem, and the old and ugly ones I will sell to the Kurds.'

"In due time he and his people reached the castle to which they were going, and were admitted, with great signs of joy, within the strong gates. Beyond the threshold the two chiefs embraced most lovingly, each saying to himself, 'I have thee at last! thou art fallen into my trap!'

"Courtchid had devised, with much cunning, how to dispose of all his foes at one blow. The women would be fatigued and taken at once into the harem; the men would require rest and ablution and food, before attending the marriage ceremony, and they would be conducted into the upper apartment of a tower that stood apart in a corner of the castle; this tower had grated windows, grated with iron bars, the door of entrance was of iron, the flooring of the upper apartment and the staircase which led to it were of wood, and under the staircase, and in the dark chamber beneath the floor, Courtchid had caused to be heaped pitch, pine, dry twigs, grass, and other most combustible materials; and as soon as Mulek and his men were up stairs, fire was to be set to these great heaps, and the iron door of the tower was to be closed and fastened from without. With so good a plan, Courtchid had adopted no other stratagem and precaution; to keep up the show of amity, he had left his yataghan in the hall above, and his people, gathered in the castle-yard to do honour to his guests, were nearly all unarmed. As he was giving another warm embrace to his deadly foe, Mulek thrust a concealed dagger into his heart, and shouted 'Billijik!' and Courtchid fell dead at his feet, and his delhis fell upon Courtchid's people, and slew them all, slaying first the chief's sons and grandsons, and not leaving a male alive within the walls.

"And this being quickly over, they collected the women and bound them, and having feasted well and taken possession of all the arms, furniture, and garments, and all things worth carrying away, they set fire to the castle in every part, and left it a black desolate ruin; even as it now is. And Mulek went away rejoicing through the Black Valley; and he placed the finest of the women in his own harem, and gave the rest to a Kurdish slave-dealer, in exchange for some camels and she-asses. As for the good dervish who was in the castle at the time of the slaughter, he was never seen more; some opined that he had been killed and burned with Courtchid Bey and his people; but others said that he had turned himself into a bird and had flown away with the sacred works, when the smoke and flames first began to rise within the towers of the strong castle.

"All men in those times much admired the successful cunning of Mulek, and, as there was one tyrant the less, most men rejoiced at the destruction of Courtchid and his evil race. But as Mulek Bey continued to be as cruel and oppressive as ever, most people who dwelt in those parts wished that he too might fall by guile and cunning. He was too strong to be attacked by open force; it was only by somebody as crafty as himself that his ruin could be accomplished.

"Many who believed that the saintly dervish had not flown away like a bird, but had been roasted like a Bairam sheep in Courtchid's castle, often said, between their teeth, that the old tyrant would burn in another place, and perhaps, even in this world, pay dearly for having so treated a servant of the Prophet, who had come hither from the Prophet's tomb.

"Years passed away, and the old man's beard grew white as the snow on the top of Olympus; but there was no visible decrease either of his bodily strength or of his cunning, either of his power or of his cruelty, when a very indolent Sultan died, and was succeeded by a Padishah of more activity and energy. The new Sultan chose for his grand vizier a fighting and

cunning Georgian, who had once been a slave, but who was now determined to root out such of the Derè Beys as paid no taxes, and gave great trouble to the Government over in Stamboul. Mulek was one of the first against whom he directed his attack. Knowing his man, he went most cautiously to work, sending him a friendly message and a rich present on his accession to office, and keeping his intention close within his own breast.

"One bright summer's day, the twenty-first anniversary of Mulek's grand exploit in the castle of Courtchid—a day which the old tyrant always kept as a day of festivity—two green-turbaned dervishes, of the most meek, modest, and holy aspect, rode up to the gates and craved the hospitality of the house.

"*'Mashallah,'* said the feasting Mulek, who had been drinking of the forbidden wine, 'the dervishes come in good time! By the beard of the Prophet, the servants of the Prophet are welcome! Throw open the gates and conduct them to this my inner chamber, for they shall be seated on my own divan and eat out of my own dishes, with me and my eldest son!'

"Soon the saintly-looking dervishes were in the presence of the chief and his heir, and numerous and soft and sweet were the salutations which passed between them.

"*'My eyes! my souls!'* said Mulek Bey, 'throw off your beneeshes and sit and eat.'

"*'My lamb!'* said one of the dervishes, 'I have first a little matter of business to settle with thee!'

"And then the two dervishes, throwing off their cloaks, stood revealed in the dress of the Sultan's bostanjees, or executioners; and he of the two who had last spoken, produced an imperial firman signed by the Sultan's own seal, and importing, in few and plain terms, that Mulek Bey and his sons must quietly submit to have their heads taken off, and that no men must dare resist these two faithful messengers of the representative of the Prophet, or oppose destiny and the will of the Padishah.

"While one of the bostanjees read, or rather repeated by rote, this short mandate, his companion produced a tough bowstring. Old Mulek merely said, 'Kismet! Destiny! My hour has come at last!' and he bent his bare neck before the firman. His son would have clapped his hands as a summons, and would have called for help, but he was paralyzed, as Mussulmans almost invariably used to be under such circumstances—ay, many of them who had laughed at the Sultan's orders for a longer time than Mulek, and who had been far more powerful and terrible than he; and, in this manner, the two bostanjees strangled the old Bey first, and the young Bey afterwards, with the greatest ease and quietness imaginable.

"The pretended dervishes, who had brought good yataghans as well as bowstrings, cut off the two heads, and each of them carrying a head under his arm, they went forth to the outer apartment, where the two younger sons of the family were feasting with the vassals and friends of the house.

"This sudden and most unexpected apparition caused much emotion—though not quite so much as might be expected by you Europeans, who know nothing of our kismet, and have none of the quiet Turkish submission to destiny.

"*'Inshallah! please God! I must have two more heads,'* said one of the bostanjees, holding out the imperial scroll in one hand and the ghastly head of Mulek Bey in the other.

"At sight of the firman, vassals and friends all fell prostrate and bent their faces to the floor, and only the two sons of the Bey stood up and cried '*Amaun! amaun! mercy! mercy!*'

" 'Kismet,' said the grimmer of the two bostanjees, coaxing the end of the bowstring round the neck of one of the sons, who was presently a dead man.

" The last of the Bey's sons would have made a struggle for life, but not a man seemed disposed to back him; and when only about a dozen janizaries, who had been concealed close at hand, and who had come in through the unclosed gate, made their appearance in the crowded hall, the strong young man submitted his neck to the cord, and all the company assembled said, 'Mashallah! It is the will of the Padishah! Inshallah! It is well done!'

" That very evening the two bostanjees, each carrying two heads at his saddle-bow, rode merrily up the Black Valley on their return to Stamboul. The janizaries who remained looked after the women and children. The fairest of the women were sent to stock the harem of the new grand vizer, and the commoner sort, together with the children, were sold to the slave-dealers. So that in the end it fared no better with the house of Mulek than it had done with the house of Courtchid. Those who believed that the good dervish had been burned, now said that they had known all along how it would be, and that it was quite natural that the old Derè Bey should have met his doom at the hands of two sham dervishes.

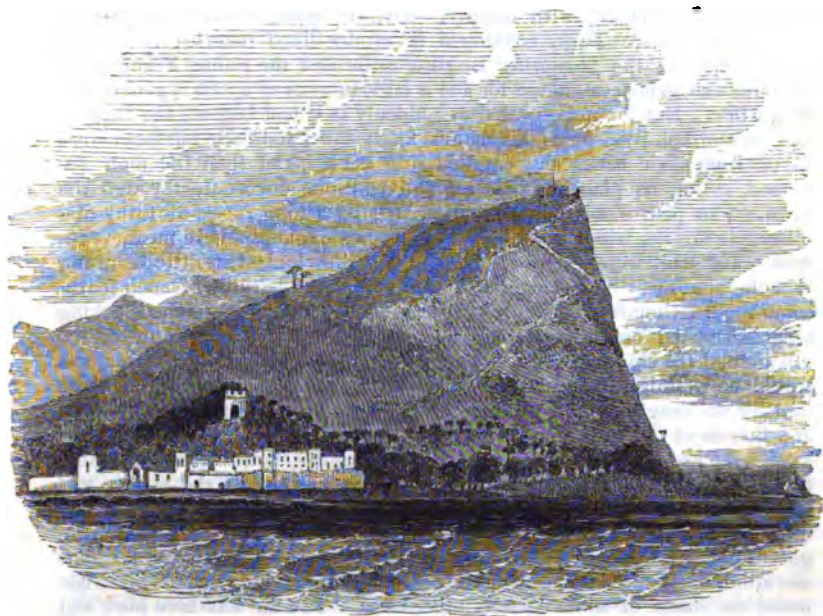
" Well! there were now two tyrants the less in these parts. But the poor people had not long to rejoice, for the Porte sent hither a rapacious and bloody pasha with an armed host of hungry retainers, and the condition of the country became worse than before; insomuch that the peasants were often heard to say—'We wish the Derè Beys were back again! They always left us something, but this pasha and his armed men will leave us nothing at all! Mulek Bey spent his wealth among us; Halil Pasha sends all his money to Stamboul. Compared with this pasha, Mulek Bey was an angel!'

SEA-COASTS AND SHORES OF CILICIA.—No. VIII.

MOUNT CARMEL AND CAIPHA.

WE left Ptolemais an hour before sunrise, and, passing through the well-guarded gates of the city, rode pleasantly along by the seaside towards the foot of Mount Carmel. Save the gentle sound of the waves as they laved the soft sand of the beach, there was nothing to interrupt the perfect stillness of the hour. A few seagulls and sandpipers were busily watching for their food on the margin of the wave, and an occasional kingfisher dived with fearless splash into the blue depths of the ocean, soaring high again with the booty firmly suspended from its talons. When Paul quitted Ptolemais, and went and lodged with Philip the Evangelist at Cæsarea (Acts xxi. 8), most probably the sand in which our horses' footsteps now left deep impressions, bore then the imprints of the apostle's sandalled feet, till the waves of the sea, like the waves of time, rolled over them and washed them from sight and memory. On our left hand were countless sand-hillocks, plentifully interspersed with palm-trees; to our right hand, the broad and fathomless ocean, and before us the gently-curving beach, terminating in an abrupt point with the still distant Mount of Carmel. After an hour's incessant march we reached the borders of a pleasant stream that flowed noiselessly into the Bay of Acre: here our thirsty animals stopped at midchannel, and leisurely drunk of the waters of Kishon, "that ancient

river, the river Kishon!" (Judges v. 21.) Its waters were now low and easily forded, but our muleteer assured us that after heavy falls of rain in the spring and autumn of the year, such was the strength of the torrent that the ford was rendered utterly impracticable, and such horsemen as were necessitated by circumstances to pass from Acre to Carmel, invariably preferred walking their horses into the sea, and swimming where the tide had lost its impetus, to risking their own or their animals' lives in the river.



MOUNT CARMEL.

This apparently very insignificant stream is the identical river that intersects the plain of Esdraelon, where Barak descended with his ten thousand men and defeated Sisera with his "nine hundred chariots of iron," and the army Sisera had collected of people from "Harosheth of the Gentiles, unto the river of Kishon." (Judges iv. 13.) Resuming our journey we passed several wrecks of what seemed to have been once stately vessels; and such had been the force of the gales which caused them to perish, that some were driven high and dry upon the beach, many paces from where the waves now broke. As we approached the modern town of Caipha (so modern that it could hardly rank as a village in 1846, though it now boasts a population of nearly seven thousand), the stir and bustle about the seaside which was thronged with boats busily occupied loading grain for the vessels of various nations in the offing, gave ample evidence that though mean in its appearance, commerce gave a spur to the populace, and that Caipha, like Beyrout, might rear up for itself an importance to which, in all probability, the same spot has never before aspired. Passing under the crazy arches of the time-worn gateway, we entered upon a scene of riot and confusion, which it would be difficult accurately to describe. The spot was an open space that had originally boasted of many houses, the foundations of

which were distinctly visible, but which had apparently been cleared away for the purposes that it now answered, viz., that of a species of corn market, where camel-drivers, bringing wheat from the interior, sold the produce before ever it was lowered from the camel's back, by a species of Babel auction, where people were heard bidding in a dozen different languages, in defiance of the chances and probability of the auctioneer being utterly ignorant of what most of them were clamoring about. The wary, keen-eyed Israelite, wrapped carefully in his time-worn meshlah; the sly, fox-like Syrian merchant, with meagre, sharp-set features and loose flowing robes; the austere Turk, enveloped in ermine-lined mantle; the crafty Greek captain; the blustering English sailor and the polite Frenchman, all bows and grimaces—these formed a tableau worked up for a genius like Hogarth's. But the noise ceased as suddenly as it had begun; the bargain had been struck by a Jew; the camels knelt down and their burthens were taken from their backs and emptied into a boat, and then the mob dispersed, giving us place to pass on and continue our route through the town. Our path was flanked on either side by a long range of filthy and miserable hovels, which answered the purposes of shops: here meat, vegetables, and fruit were exposed for sale; but they looked so little tempting that the man must be a-hungered indeed who could partake of such loathsome food. Clouds of flies infested these shops; but the wretched-looking tenants smoked on in perfect apathy, well aware that the wants of the village and the shipping must be supplied, and that before noon their stores would be wellnigh swept away. Through an occasional aperture in these bazaars we caught a faint glimpse of the interior economy of the streets and houses of the town; quite enough, however, to convince us that however wretched the street we were now threading, however full of mud, filth, and abominations, we witnessed only a fraction of the misery and impurities contained within the walls. Anxious to be rid of the flies and other nuisances we urged our nags on, and trotting through the opposite gateway to the one by which we had entered, we came upon a pleasant elevation overhanging the sea, and, dismounting, sat down to breakfast under the shade of some friendly olive-trees. The air was here pure and exhilarating; beneath us rolled the restless waves of the Mediterranean, above us, high towering towards the skies, rose the far-famed mountain of Elisha. From hence it was our intention to visit the convent situated on the top of Mount Carmel, but the ascent was so steep that it was found expedient to leave our horses at a caravanserai in Caipha, and hire donkeys, which are here plentiful, and kept specially to be hired out for the accommodation of travellers. Whilst our guide was gone into the town to seek for these useful little animals, we amused ourselves by watching the groups of travellers or strangers that issued from the town, all bent on visiting the convent on Mount Carmel: some of these were natives, some Europeans, mostly the masters of the ships then in harbour, and all were mounted on active little donkeys; but, amongst others, there was a solitary woman carefully enveloped in veils, who, riding on her donkey, and followed by a mounted servant, was urging her way in much apparent hurry to the convent. This woman was, in all probability, a Catholic, going upon a visit to her confessor, and possibly the wife of one of the native consular agents. There was nothing extraordinary or worth recording in all this, but to our minds it forcibly pictured a well-known passage in the Holy Scriptures:—"Then she saddled an ass, and said to her servant, Drive and go forward; slack not thy riding for me except I bid thee. So she went, and came unto

the man of God to Mount Carmel." (2 Kings iv. 24, 25.) The woman, from the gay caparison of the donkey, was evidently some one of importance in the town; the lad that followed her, whose donkey was without saddle or bridle, was evidently a menial; and though Caipha was not Shunem, in our eyes the illustration was complete. Whilst contemplating this scene, the guide returned, accompanied by an Egyptian donkey-boy, who, in the spirit of emigration, had found his way to Caipha, and there reaped no mean profits from the purses of strangers visiting Carmel. We immediately engaged the services of this youthful donkey driver, on whose donkeys we mounted and proceeded to visit the celebrated cave of Elisha. The pathway was in many places narrow and precipitous, and the loose sandy soil often crumbled and gave way beneath us. Reaching a fountain, now dry, but which the natives pretend was the spring from which the prophet oftentimes quenched his thirst, we halted to rest our weary animals awhile. Nothing could exceed the barrenness of the soil hereabouts; and, looking upwards, the tops of Carmel were bold. A covey of red-legged partridges, disturbed by the inquisitive scent of our dogs, flapped heavily over our heads for an instant, and then flew rapidly down to the plains beneath. From this elevated position the prospect was grand in the extreme, but still insignificant to what we beheld on reaching the summits of the mountain. Here, at the extreme point of the highest cape in Syria, two thousand feet above the level of the sea, we stood and gazed upon the vast horizon, spanning miles upon miles of ocean in that one brief and cursory survey. Ships, whose nearer vicinity might have made them appear like mountains in the sea, had from this high altitude more the appearance of dark spots upon the blue bosom of the ocean, and the smoke of a solitary steamer, rapidly making her way towards Smyrna and the north, could barely compete in grandeur with the clouds that issued from our muleteer's mouth, as he sat hard by wrapped up in the all-absorbing enjoyment of his pipe. A noble panorama meets the eye to the north and south and west, and the vast monastery of the monks, looming behind us, excludes from view everything else in that direction. To the northward lie the city and plains of Acre, and beyond these the distant range of Lebanon; to the southward, the sea-coast, as far as the eye can trace, with Casarea in the distance; to the south-east, the wide plains of Esdraelon, intersected by the river Kishon, whose annual inundations help much in irrigating the land, and in making the country fertile and productive. On those plains it must have been where the people were assembled when "Ahab gathered all Israel unto Mount Carmel." The site on which the miracle was accomplished is beyond doubt defined by circumstances. "Now, therefore, send and gather to me all Israel unto Mount Carmel." A better spot for so grand a spectacle could not have been chosen. Thousands of spectators, dwelling in the plains on either side, the congregation of false prophets on the mountain top; the solitary, but courageous man of God standing aloof, firmer than the mountain on which he stood in holy faith and dauntless courage. We think we see the multitude thronging the mountain-sides, waving to and fro like a human sea; we watch their anxious countenances, their listening attitude, whilst a loud clear voice rings upon the air, "Cry aloud for he is a god; either he is talking, or he is pursuing, or he is in a journey, or, peradventure, he sleepeth and must be awaked." (1 Kings xviii. 28.) And then we watch the phrensy of the false prophets and their despair—hopeless irremediable despair—and then a vivid flash of intensely-bright lightning, a prostrate multitude, trembling with guilty fear, the miracle

accomplished ; the sacrifice accepted ; the waters of that ancient river Kishon flows with a darker hue from the blood of the false prophets, and there is a sound of rain, and " the heaven was black with clouds and wind, and there was a great rain, and Ahab rode and went to Jezreel." (1 Kings xviii. 45.) Such was the picture easy to the mind's conception as we stood upon the very spot and looked around ; the sky was now serene and clear, barely a cloud to shroud its dazzling brilliancy ; the air was pure and breathed of health, exhilarating the heart to pleasant themes of thankfulness : and we looked down upon the vast expanse of ocean, its mighty waves undulating with the pleasant sea-breeze.

The hospitable Carmelitan monks showed us much kind attention and civility : we visited a grotto, by them styled Elisha's grave, where they tell you the miracle of the dead man coming to life again, by touching the prophet's bones, transpired. There is no doubt that many parts of the mountain were familiar to the man of God, but amongst so many caves and grottoes, it is absurd to fix upon one in preference to another. Before taking leave of our hospitable entertainers, we mounted to the convent top, and saw the sun set in all his magnificent grandeur, the sea looking like a refulgent mirror, and the last warm glow of sunshine lighting up the ruins of distant Casarea, as a bright thought of the past may flash upon the time-worn memory of the man bowed down with years and sorrows.

A STORY OF THE IRISH REBELLION OF 1641.

COULD the reader have traversed the now peaceful dales of Cavan a little more than two hundred years ago, a sickening and mournful scene would have met his view. Rebellion and bigotry were stalking through the land, and leaving footsteps of blood behind them. Men, women, and children, all turned persecutors. Thousands of victims were burned in their houses ; others were thrown into dungeons, and there left to pine with hunger ; mangled, and left to perish in agony on the highways ; dragged by the neck through bogs and thickets, hung up by the arms, and then cut and maimed, stoned, boiled, and buried alive. Such scenes as these would have fallen under his saddened gaze. Amidst this scene of carnage and suffering, one—and only one—habitation remained untouched by the blood-thirsty persecutors who had raised the fearful cry : " Spare neither woman nor child. The English are meat for dogs. Let not one drop of English blood be left within the kingdom." In every other Protestant dwelling fire and the sword had done their destructive errand. This island-home was filled with fugitives, who had fled to it from the storm which was raging without ; it was the abode of an aged bishop, whose holy life had so touched the hearts of even these maddened persecutors that they declared that he should be the last Englishman whom they would drive from their shores. " Save us ! oh, save us," exclaimed an aged widow, accompanied by a terrified child, her grandson, whose parents had fallen victims in the massacre. " That I will willingly endeavour to do," replied the venerable bishop, who was standing in the doorway of his palace, " although where to put you I know not, for my house and my church and every other place which I possess is already filled with fugitives. In truth it is a fearful time, but let us not forget our Saviour's words, ' Blessed are they which are persecuted for righteousness' sake, for theirs is the kingdom of heaven.' " " Oh, sir," exclaimed the widow with a look of terror, " we will remain in

your churchyard ; it may be that our foes will respect that." And so it was arranged : the widow and her grandson were received into the palace, and two, who were better able to bear exposure to the open air, took their station in the churchyard, which was speedily filled with others who had escaped the hands of their ruthless persecutors. The good bishop diligently tended the trembling flock thus strangely committed to his care. From the 23rd of October, when the insurrection commenced, to the 18th of December, this sanctuary remained inviolate, but now it too fell under the ban of the rebels. A band of them, led by a chief, approached the palace, and demanded an interview with its occupant. Clad in a long robe, and wearing a venerable beard, the aged bishop came forth, and his tall and graceful figure and reverend mien impressed his hardened persecutors with a temporary feeling of awe. "Father," said their leader, "we respect you, and hitherto we have left you untouched ; but these our enemies who are with you, they must be sent away." "Roderic O'Connor, it hath ever been the part of a Christian pastor to protect the oppressed, and never must it be said that I turned traitor to that holy cause which now for so many years I have professed." "We respect you, father," replied O'Connor, "and indeed we have shown that we do so ; but our orders are peremptory, and you must comply with them, or become yourself our prisoner. We love you more than any of your countrymen whom we have ever seen, but we cannot allow you to harbour traitors to our country and to our religion." A hoarse murmur of "Heretics ! down with them all," was heard from the rear at this moment, and many a heart already beating wildly was quickened by that threatening cry. The bishop stepped forward, and raising his finger heavenwards, in a clear and loud voice he said : "To a Christian and a bishop that is now almost seventy, no death for the cause of Christ can be bitter ; on the contrary, nothing is more desirable. I cannot send these sufferers away, and if it is the Lord's will I will perish with them. Here I am, the Lord do unto me as seemeth good unto Him ; the will of the Lord be done." "Then you are our prisoner ;" and accordingly, having placed him on horseback, they took him, his sons, and a friend of the bishop's, to a lake about two miles distant. On a small island on this lake stood a ruined castle, which served as their prison ; they were at first put in chains, the bishop excepted. But their keepers were more humane than many of their persecutors would have approved of, for they supplied them with food and freed them from their chains, permitting them to erect a rude shelter of boards as a protection against the inclemency of the weather. Nor were their religious observances interfered with, and they passed their time in a manner becoming persons who knew that every day might be their last. The keepers supplied them with bread and wine, and the bishop was thus enabled to administer the holy communion to his little flock, and a touching scene it must have been to see this sacred rite of our faith performed under such solemn and impressive circumstances.

On the 7th of January 1642, the bishop, with his sons and the friend who had gone to prison with him, were set at liberty, an exchange of prisoners having been made. "Farewell, good sir, I beg a place in your prayers," said an English gentleman who was left behind in the tower ; "I shall ever remember this meeting." "Farewell, my brother, and the blessing of God be with you. I trust you will ever retain the good lessons which you may have learned in this place ; but do not forget that you have a frail and wicked heart, and that you live in an ensnaring world, where the good resolutions of adversity are too often broken."

A tear dimmed the eye of the prisoner, whose voice had quivered in giving utterance to his feelings, and the aged prelate was visibly affected. But a more trying scene awaited him, for as he was about to quit the place, a general burst of weeping from those who were still detained prisoners completely overcame him, and all wept. "Farewell!" "Farewell!" was on every tongue, and a bishop's benediction was fervently given. The rebels had promised this little company of released captives that they should be permitted to go to Dublin, which, by a narrowly-timed disclosure from one of the conspirators, had been saved from the impending danger, and was now a city of refuge for all who could reach it. This promise they refused to fulfil. Denis O'Shereden, a clergyman, and a convert from Popery, received the party under his roof, which had been respected, because he was of an ancient Irish family. The daughters-in-law of the bishop had already taken shelter in the same abode. "Father," said one of them, "what a happy meeting, when I thought we had parted for ever in this world," bending her forehead as she spoke on the bishop's breast, whilst her eyes sparkled with tears. "God has been better to us than our fears, daughter," replied the bishop, folding her in his arms; "to Him be all the praise." "Amen," responded all the party with one voice. The bishop was truly the pastor of the new flock which had now come under his care. On the 30th of January he preached from Psalm cxliv., dwelling with peculiar force upon the seventh verse, which he repeated again and again: "Send thine hand from above, rid me and deliver me out of great waters from the hand of strange children." So marked was his reference to this earnest prayer of the Psalmist, that his little congregation was affected to tears. And he *was* delivered, for on the next day he was seriously ill, and calling around him his sons and their wives, he delivered a beautiful farewell—a patriarchal death-song—from which we give one extract: "God will surely visit you in due time, and return your captivity as the rivers of the south, and bring you back again into your possession in this land; though now for a season (if need be) ye are in heaviness through manifold temptations, yet ye shall reap in joy, though ye now sow in tears." Here we cannot refrain from remarking, that now these dying words appear to be receiving their fulfilment; and if such things may be, surely the sainted spirit of this holy man is now rejoicing over the victories which the soldiers of the cross are gaining over sin and superstition, in that island where he himself fought so gallantly against the same foes. He now became speechless, and alumbered almost constantly, appearing peaceful and happy. On the 7th of February at about midnight, he laid down the soldier's sword, and received the victor's crown. The rebels attended his burial with great solemnity. Use the form provided by your own church over the remains of this venerable man, for we respected him greatly," said their chiefs to the friend who officiated at the interment. But he was fearful of rousing the fury of the assembled people, and did not avail himself of the permission thus given.

The rebels fired a volley over his grave as a mark of honour, and shouted, "Let the last of the English rest in peace;" and a priest was heard to breathe forth the prayer, "*Osit mea anima cum Bedello.*" (May my soul hereafter be with that of Bedell.) The alight veil drawn around the subject of our story is now withdrawn, and let it be remembered that much of that story is matter of history. The atrocities of the Rebellion, the respect shown to the home of the bishop, his imprisonment in the ruined castle on the lake, the honours paid to him at his burial, are all

recorded on the historian's pages, and some of the speeches in this narrative are derived from a similar source. William Bedell it was who superintended the translation of the Old Testament into the Irish tongue: this translation Robert Boyle printed at his own expense. Who can tell how many a cottage home has been gladdened by the light of this lamp of life, thus kindled by this pious bishop, and rendered available by this Christian philosopher—a happy combination of religion and science. And now that Ireland is awaking from her long slumber, and shaking off the chains of superstition which have bound her down for so many ages, may we not hope that this version is destined to be a greater blessing than it has yet been, and that many a penitential tear, and many a heart-cheering thrill, will yet be called forth by the perusal of its sacred pages! That this may be the case is the earnest prayer of the writer of this story.

HISTORY OF CAOUTCHOUC.—No. V.

RETURNING to the properties of caoutchouc, it may interest some of our readers to learn that liquid caoutchouc has been, at different times, sent into this country. Professor Faraday describes a specimen sent to him as being covered with a pellicle of concrete caoutchouc, supernatant upon a liquid, thick, and of a pale yellow colour, bearing some resemblance to cream. This liquid part retained many of the properties attributed to the fresh sap. The separation appeared to have taken place long before its arrival here. It is considered by Berzelius that the separation of the caoutchouc, existing previously in the form of an oily emulsion in the milk, is due to the coagulation of a portion of vegetable albumen, which gathers out, as it were, the caoutchouc globules into a mass, which floats on the surface. Pure caoutchouc is transparent and colourless. It is perfectly elastic; and when suddenly extended, much latent heat is developed, and free electricity is also given out. It is a bad conductor of heat, and a non-conductor of electricity. When it has once separated from the juice in the solid form, says Liebig, there is no method of obtaining it again suspended as before. In hot water, it swells and becomes soft, but is insoluble both in water and in alcohol. Pure ether dissolves it, and leaves it by evaporation, as already noticed, in a perfectly elastic state. Frederick the Great appears to have been the first to apply this solution to the manufacture of an article of dress. He procured a pair of lasts, in the form of riding-boots, and caused an ethereal solution of caoutchouc to be applied to these lasts, until a coating of caoutchouc of sufficient thickness was deposited on them. The lasts were then removed, and the monarch wore the first pair of riding-boots made from this process—and probably also the last; for ether is too expensive a solvent for caoutchouc, applied to such purposes. When the fresh-cut edges of a plate of caoutchouc are closely applied together, they immediately adhere. and the joint is almost as perfect as though no separation had taken place. The same effect may be produced by moistening the edges with a little naphtha. Hence the value of caoutchouc to the chemist. He forms an elastic tube of a sheet of it, by simply holding it over a glass rod, and cutting the two edges close off, when, by a little pressure, they unite. In this way he makes almost all the flexible joints of his apparatus, and is entirely enabled to dispense with the costly and cumbrous metallic fittings which would otherwise be necessary. It is certain that, by its adaptation to the wants of philosophy, caoutchouc has contributed, next to glass itself, most

valuable assistance to the process of chemical discovery. Formerly, only the wealthy could afford to make chemical experiments; now, the student, with an expenditure of a few shillings in glass and caoutchouc, has the material for the formation of effective and excellent apparatus.

Caoutchouc is an excellent example of what chemists call *hydrocarbons*. It consists, in fact, when pure, of nothing else but hydrogen and carbon. When caoutchouc is submitted to destructive distillation in a cast-iron still, it yields a very important and curious liquid, which is called *caoutchoucine*. This fluid was discovered by Mr. Barnard, in the course of some experiments performed by him at Messrs. Enderby's caoutchouc works at Greenwich. It is prepared in the following manner:—Small lumps of caoutchouc, about two inches square, are thrown into an iron still, connected with a proper refrigerating apparatus. A temperature of about 600° Fahr. is then applied, and a quantity of oil distils over. Nothing but a little dirt and charcoal are left behind in the retort. The oil thus procured is again repeatedly rectified, until at length a most singular fluid is procured. It is the lightest fluid known, yet its vapour is denser than many heavy gases. It is extremely volatile, possesses a peculiar penetrating odour, and consequently can only be retained in well-stoppered vessels. Its most remarkable property, however, is, that it is a perfect solvent for the very substance from which it was procured. With this view, it is prepared in very large quantities at the manufactory in question, under protection of a patent. It very readily evaporates, leaving the caoutchouc in its original concrete form upon the surface of any article to which it has been applied. It is largely employed on this account in the manufacture of various waterproof fabrics, and will doubtless come into most extensive use as soon as the term of the patent expires, as it proves an admirable solvent for many other substances. The residue after distillation is a peculiar greasy substance, which never loses its tenacity and pliability; and it is therefore made use of in the English navy for steeping the cordage, in order to render it more durable. It is said that, in the factory in question, upwards of eight hundredweights of caoutchouc are daily submitted to the process of distillation, for the purpose of procuring the resulting caoutchoucine. The caoutchouc employed for this purpose is the worst kind; the purer sorts being kept for manufacture into various articles.

Caoutchouc, we may remark, before passing on to the consideration of its manufacturing history is employed by the Indians, who extract it from the trees, for various purposes. Spread on cloth, they form an impervious fabric, applicable to a number of purposes. Caoutchouc in the solid state is often also employed for making torches. These are from twenty to twenty-four inches long, and about three fingers in thickness. They require no wick, and burn exceedingly well, emitting a very clear light, but exhaling also an odour which, though far from disagreeable to the natives, is so much so to others as to preclude its use for this purpose by any but the Indians. Torches of this thickness and length will last about twenty-four hours. The formation of squirting bottles out of this substance has already been alluded to. At Para it is customary to form various fantastic ornaments of caoutchouc—figures of animals, balls, &c. The ornamental devices upon these are produced in the same way as upon the rubber shoes. Caoutchouc is also made into larger bottles, for holding various liquids; a purpose for which it is in every respect well qualified, with the exception of the somewhat disagreeable odour which they communicate to their contents.

The consistence of specimens of caoutchouc seems to differ greatly either with their source or mode of extraction. Some kinds are as hard as gutta percha, and might serve as a substitute for that substance; but others never become solid, but remain always in a soft semi-fluid viscid state, resembling bird-lime or treacle. At the Great Exhibition some curious specimens were shown, which are represented in the cut, of cakes of caoutchouc said to be found at the root of the India-rubber tree.



CAKES OF CAOUTCHOUC.

MANUFACTURE.

We now approach the highly-interesting processes connected with the caoutchouc manufacture. It will be useful to consider this shortly under the respective heads, 1, of the manufacture of raw caoutchouc; 2, of elastic fabrics; 3, of waterproof fabrics; and lastly, of vulcanized caoutchouc. If it is added, that the various processes connected with this interesting substance we have personally inspected at the original manufactory in Manchester, an additional degree of interest and value may be felt to attach to the following account of the subject.

Macintosh's factory stands in a spot a little withdrawn from public notice in Manchester, but surrounded by several of the hundred-voiced cotton-mills whose whirrings fill the air. The first part of the manufacturing process is the purification of the caoutchouc. For this purpose a long trough is arranged down one side of a large room, which is partly filled with water kept hot by a steam-pipe. Into this trough the caoutchouc is thrown, in the state in which it is received from abroad—in the shape of bottles, or balls, twisted masses, tablets, and skinny shreds. Several persons with large sharp knives cut these masses open, and they are then allowed to soak. By this means all the earthy impurities are softened, and prepared for removal by the next process. A lump of caoutchouc is then taken to a machine which is intended to wash such impurities entirely away. This consists of a pair of powerful cast-steel rollers, the surfaces of which are deeply cut. The caoutchouc is presented to these rollers, which seize it, and grind it with immense force at the same time that a jet of water falls upon the mass, and washes away in a muddy stream all the clay and other foreign ingredients. A curious effect is now produced upon the caoutchouc,—it immerses from the machine in the form of a coarse corrugated band, its particles having been made to cohere by the pressure and heat evolved in the process. The caoutchouc is passed several times through this apparatus, until the water removes no more impurities; it is then placed aside to dry. It is presumed that now the raw material is sufficiently pure for the commencement of the proper processes of its manufacture. The next step, therefore, is to manipulate the caoutchouc in such a manner as to obtain it in a solid, homogeneous mass. The corrugated bands, which resemble coarse sacking, and are of a yellowish colour, are, when quite dry, taken to a formidable apparatus called the kneading-mill. This is a very massive structure of cast-iron, and as every part is subject to a violent straining, it is rendered as strong as possible. It consists essentially of a hollow cylinder, inside which an iron axis, armed with projecting pieces, revolves horizontally, a certain space being left between it and the sides of the cylinder. About four or five pounds of the

purified caoutchouc is stuffed into this iron chest, and the lid is then fastened down by a powerful clamp. Power is then put on, and the central iron axis begins to operate upon the mass of yielding, but tough material placed within its terrible arms. Slowly revolving, it crushes the loose mass by slow degrees into a body of consistent substance, resembling dough. After it has been in action a little time, an immense amount of heat is developed, so much indeed that the fingers may be as badly burnt as if scalded, although no fuel of any kind is used. The whole apparatus becomes extremely hot. This is due to the extrication of what is called the *latent heat* of the caoutchouc; as it is a fact well known to chemists, that bodies of all kinds have within themselves always a certain charge of caloric, which, not affecting their sensible temperature in ordinary cases, can nevertheless be developed in various ways, and especially by pressure, which seems to squeeze it out.

The caoutchouc is now changed in colour to a light brown, and appears as a glutinous coherent mass. It is extracted from the machine by simply unfastening the lid, when the great hot mass is turned out into the laps of the attendants. This mass is again kneaded in another apparatus, sometimes with the addition of a little dry quicklime. This process is also attended with the evolution of much heat, and any water yet remaining in the mass is actually converted into steam, a succession of explosions being often heard in the apparatus from the disengaged air and steam. A very large kneading-mill, capable of containing six or seven masses of the size received by the first, is the last apparatus of this kind in which the caoutchouc is recomposed. After it has been exposed sufficiently long in this engine, the entire mass is turned out as before, and is then placed in a cast-iron mould; it is now subjected either to the action of a powerful screw, driven down upon it so as to compress it into the mould, or to that of an hydraulic press. It is curious that the caoutchouc, in consequence of its elasticity, is better compressed by the screw than the press, a successive action being apparently necessary for this purpose. In this mould the mass remains for some time, until it has taken the shape and size desired; it is then about eighteen inches long, nine inches broad, and five thick.

The last operation to which raw caoutchouc—if such it can now be called—is subjected, is to cut it into plates or sheets, and this is effected by a singular but ingenious machine invented by a Mr. Beale. Every one must have remarked the lined appearance of caoutchouc when sold in the sheet, or in the form of tablets for the purpose of the artist. These lines are so beautifully regular, that they give the caoutchouc sheet very much the appearance of a woven tissue. All such lines are produced by the knife of the clever apparatus we are about to describe. The cast-iron mould with its block of caoutchouc are placed horizontally upon a movable bed, which the machine causes to traverse backwards and forwards at any desired rate of speed. About the centre of the apparatus a nice and delicate adjustment of mechanism is placed, by which a thin, razor-like knife is made to move from side to side with immense rapidity. To the swiftly-moving edge of this knife the end of the caoutchouc block is exposed; and the whole apparatus having been properly adjusted, the block of caoutchouc is gradually urged forwards against this edge. Instantly a sheet of the substance begins to be separated from it, and by an ingenious arrangement, rolls itself upon a roller above. In this way the mass proceeds until its whole length has been traversed by the knife, when the motion of the bed is reversed, and in its return to where it started the cutting process begins

afresh. By means of screws it is easy to cut the caoutchouc into sheets almost as thin as paper, or into tablets of the thickness commonly employed for erasing the marks of pencils. Just over the edge of the knife a tiny jet of water plays during the whole time of its operation; this cools the mass, and renders the operation of cutting the caoutchouc very much more easy. With such immense rapidity does the knife of this machine move, that it can scarcely be seen to move at all; and the succession of its alternations is so rapid, that it produces, instead of a rapidly successive sound, a continuous whirring noise, the sure evidence of a high degree of rapidity of movement. With this the first branch of the manufacture of caoutchouc is completed.

THE HERO'S FUNERAL.

BY ROBERT MONTGOMERY, M.A.

THE following extracts are from a recently-published work, in which the scenes previous to and attendant upon the funeral of the late Duke of Wellington are most faithfully and poetically described, in language worthy of that great occasion, to commemorate which the poem was written.

*Night-scenes on
November 17th.*

NOVEMBER's night is harsh and cold;
Like banners seem the clouds up-rolled,
Sable and dusk, in starless heaven,
And, here and there, by night-gales driven;
Fiercely and fast the loud-ton'd rain
Rattles against the window-pane;
But neither wet nor winter's chill
The mingled rush becalm of myriads coming still:—
Through dusky lane, and street, or lighted square
London is moved, and motion ev'rywhere!

Midnight.

But, at last, there seems a lull,
Making night more beautiful.
Chariot, steed, and rapid car
With fainter cadence roll afar;
Till a deeper hush is come,
And the wide and wakeful hum
Ebbs and falls, and dies away.

Dawn.

But the cloudy dawn is waking,
And the day-tints dimly breaking:—
Again the fevers of excitement roll
Tides of emotion through that public soul
Which heaves vast London, this eventful morn
When Arthur Wellesley to his tomb is borne.

Morning.

And now go forth!—a spectacle to see
Eternalized in mind and memory.
Yet, when the Muse of History records
The pomp we celebrate, in deathless words,
She will not pause o'er car and cavalcade
Or mailed hosts in banner'd pomp array'd;
But *this* will be the truth to tell,—
That Empires loved one man so well,
A million and a half of mourners came,
Whose hearts were mottoed with his cherish'd name!
The People make the pageant then!
His monument is living man;
And never in the past of hero-crowded time
Look'd Hannibal so great, or Pompey so sublime!

On window, roof, and balcony,
Where foot can stand, or eye can see ;
By churchyard-gate, or garden wall,
Near porch and palace, hut and hall
Crowd human forms, like clust'ring bees,
That swarm at noon on summer-trees ;
While, clashing with incessant jar,
Rush chariot-wheels and rolling car !

*The Procession
forms.*

'Tis eight o'clock by matin chime ;
And signal-guns announce the time,
While countless numbers, mute with breathless trance,
Seem melted into one, to view the pomp advance.—
With ling'ring preludes, long and low,
Comes marching on, serene and slow,
'Mid symphonies of solemn woe,
Yon Cavalcade of Death !
With mourning trump and muffled drum,
Behold the vast procession come,—
And hold your pausing breath !

The Charger.

But yet awaits a tearful sight,
Though not with martial splendour dight.
A groom-led Charger, riderless,
Comes drooping in its loneliness,
As though the meek-eyed creature felt
Funereal sorrow through it melt.
And, who that saw the boot and spur,
And did not feel his life-blood stir,
When that denuded steed a type was made to be
How glory is the garb earth puts on vanity !

Military Scene.

Hark ! again the muff'd drum,
While the plum'd Battalions come,
Timing deep their measur'd tread
To the March surnam'd the Dead,
Six in file, in single rank,
Ringing out a hollow clank :—
Mingle with the martial scene
Mailed Guard and red Marine,
Foot and Horse-Artillery,
And brigades of Infantry.—
For thus, each Regiment sent its type to show
Some fitting token of funereal woe ;
And when, to end the vast array,
Hussar and Lancer lined the way,
The wailing Piper, next, a pibroch blew
And coronach that thrilled the soul of Feeling through !

*A Living
Spectacle.*

'Twas not the pomp, the banner nor the plume,
Nor all which glorifies a Warrior's tomb,
That touch'd with superhuman power
The awful pathos of that deathless hour.
'Twas moral grandeur !—'twas the true sublime
Of sacred nature soaring out of time,
And drinking in from Worlds which Faith can see,
The inspirations of eternity.
And one such moment grasps an age of life,
With more than poetry and passion rife ;
Making us feel immortal instincts rise,
And claim celestial kinship with the skies.

THE
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A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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DEVONPORT.



UP to the year 1824 this important town was known by the name of Plymouth Dock, or simply Dock, and suffered much in dignity from bearing an appellation which implied that it was a mere appendage of the more ancient borough, though containing in reality the dockyard and arsenal, and the residences of both naval and military commanders.

An amusing notice of Dock occurs in Boswell's 'Life of Johnson.' Great inconvenience had been felt by the inhabitants of Plymouth from the want of a plentiful supply of fresh water; in consequence of which an Act of

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Parliament was obtained in 1584 by Sir Francis Drake, empowering the Corporation to bring water, by means of a *leat* (the provincial term for a small stream flowing in an artificial channel) twenty-four miles long, from Dartmoor. As the modern town of Dock became more populous, its inhabitants suffered from a like cause, and applied to the Corporation of Plymouth for leave to obtain a supply from their leat in 1762. Whilst negotiations were pending, Dr. Johnson paid a visit to Plymouth, and entering into the party spirit of the Plymouthians, or affecting to do so, exclaimed, "No, no! I am against the Dockers; I am a Plymouth man. Rogues! let them die of thirst, they shall not have a drop." The Dockers, though their request was refused, did not die of thirst, but set to work, and, with the help of Government, constructed for themselves a leat about thirty-seven miles long, which not only made them independent of their uncharitable neighbours, but afforded them a supply much greater than they could have ventured to hope for from that source.

The town owes its existence to the dockyard, which was established in 1688. Until the year 1700 it had not been commenced; not a house was to be seen except the Barton House on Mount Wise. Plymouth, distant two miles, monopolized the commerce; there the military were stationed, and there the sailors, whether bound for a voyage or paid off, spent their money. The undertaking of a public work, however, occupying forty acres of ground, soon necessitated the building of houses for the workmen; and when the buildings were completed, further need arose of dwellings for the citizens. Shops of various kinds followed, and a town, with its usual accompaniments, soon sprung up. During the latter half of the eighteenth century the town was fortified, and extensive barracks and a governor's house were built. In 1800 the number of inhabitants amounted to upwards of 23,000, whose prosperity, strange to say, was promoted by what most men consider one of the greatest of evils, the existence of war. A contemporary history says: "The fluctuations occasioned by the alternate operation of peace and war have hitherto prevented the society of the place from assuming any permanent feature. Under the influence of these opposite causes, it exhibits a surprising contrast. Peace is almost annihilation to it. Trade then stagnates; speculation expires; numerous shops and houses are shut up; the streets are silent, and inactivity and despondency pervade every one. War instantly changes the scene. A new spirit is suddenly diffused, and the greatest ardour and industry prevail. The frequent equipment and return of fleets occasion the expenditure of immense sums of money; and multitudes of speculators resort hither from all parts of the kingdom to participate in the spoil. Shops of every description open in endless succession; not a house is vacant; clamour and bustle pervade the street; and at length the whole place exhibits the appearance of a fair."

In the year 1823, the inhabitants, determining if possible to shake off the yoke of Plymouth, petitioned George IV. that the name of the town might be changed to Devonport: this was done in the following year; but the dockyard retained its original name of Plymouth yard until 1843, when, by command of Her present Majesty, it was altered to that of Devonport dockyard.

The scenery in the neighbourhood of Devonport possesses somewhat different features from that of Plymouth. The mouth of the Tamar, where it joins the Sound, is contracted; consequently there is not such an extended sea-view. The public promenade, Mount Wise (so called from a family of

that name to whom the property once belonged), is an oblong space covered with gravel, and has on one side the residence of the military commander of the district, on the other that of the Port Admiral. Towards the seaside it is edged with strong batteries, commanding the entrance to the harbour, and directly opposite rise the wooded slopes of Mount Edgecumbe. A man-of-war, equipped for sea, or at least outwardly bearing the appearance of being so, lies at anchor in a creek running into Cornwall, and there is usually a good deal of traffic between the shore and the vessels moored in Hamoaze. Most of these latter are, as it is termed, laid up in ordinary, that is, they are stripped of all their rigging, which, with the guns, &c., are taken on shore. The lower masts alone are left standing; the upper deck is roofed over with a kind of pent-house, and the hull is painted white and buff. A few men only are left on board each, whose business is to keep them clean and to prevent depredations. But though thus dismantled, they are still picturesque; and it is very interesting to sail through the squadron, and to have the recollection of some deed of daring performed during the late war, called up by the sight of a name which was once in every one's mouth, and not a little gratifying to one's national vanity to recognise vessels built and fitted out by our enemies reposing quietly in harbour, and kept in subjection by half-a-dozen of the very men, perhaps, who in their boyhood helped to arrest them from their owners, and triumphantly steered them into a British port.

Another interesting object visible from Mount Wise is the victualling-yard, built close to the water's edge, adjoining the neat little town of Stonehouse, which, perhaps, we ought to have described before, as occupying great part of the space between Plymouth and Devonport. The ground on which the victualling-yard stands was once a promontory, covered with greensward above and edged by rocks. It occupies an extent of about thirteen acres, a large portion of which was but a few years back covered by the sea. In order to obtain a suitable site, 300,000 tons of solid rock were removed, and the foundations on one side laid, by help of the diving-bell, in the sea. The situation appears to have been chosen from its vicinity to ships fitting out for sea-service, and because—the mouth of the harbour being at that point contracted—there is at all times of tide sufficient depth of water to allow lighters to come alongside; whereas, on most of the shores of Hamoaze, the water is shallow, and a bank of mud is left by the receding tide, in consequence of which, vessels can only be brought to shore at or near high water. The buildings belonging to this department are large and admirably adapted for the purpose intended, that, namely, of supplying the navy with provisions of all kinds. The bakehouse is especially worthy of inspection. It measures 250 by 200 feet, and contains two steam-engines of 40-horse power, and twenty-seven pairs of mill-stones, capable of grinding one hundred bushels of corn in the short space of ten hours. After having been sifted by the same machinery, it is passed down to the lower story, where it is conveyed to a kneading-trough, and by a series of curiously-contrived instruments, kneaded into dough and prepared for another operation, that of being cut up into the required size of biscuits ready for the bakehouse. A batch of biscuits takes about a quarter of an hour baking, after which they are placed in a room, exposed to a high temperature for three days, for the purpose of drying. Biscuits being the only kind of bread in general used at sea, it is highly important that extraordinary precautions should be taken, in order to secure a supply of the best quality, and this is effected by the Government retaining the

whole process in their own hands. Biscuits prepared from damaged corn, from mildewed flour, from dough not thoroughly kneaded, or if not well baked and dried, would soon spoil at sea ; but by the present plan no one of these contingencies is likely to occur.

But it is time that we should speak more at length of the establishment to which Devonport is indebted for its very being—the dockyard, undoubtedly one of the finest in Europe. Originally it covered but forty acres, subsequently additions were made, and its present extent is seventy and a half acres, a large portion of which has been levelled from the solid rock. On entering the yard gates we find before us a broad open space, having on one side a double row of trees, on the other the warder's lodge, and beyond it a chapel erected for the use of the officers of the yard, the military quartered in the town, &c. Passing on, we leave at our left a row of handsome buildings, the residences of the principal officers of the establishment, and reach the verge of what we should call a cliff, were it not faced with regular masonry. Descending by a long flight of steps, we find ourselves standing where there was once a solid bed of rock, which, before the construction of the dockyard, rose to the level of the open space above from which we descended. We have now before us the business part of the establishment : noble ships in progress of building or undergoing repair, sheltered beneath canopies of copper and glass, each of which must cover several acres ; basins with floodgates, into which ships of the largest size may be floated, and be raised or lowered with the tide at pleasure ; buildings in which are stowed away masts too ponderous, one would imagine, for human power to lift on end, and for any ship to carry ; sails too cumbersome for human hands to furl ; sheds stored with anchors of all sizes ; cables more like the stems of palm-trees than any ropes with which we have been familiar ; chains, a single link of which we wondered whether we could lift, but have no doubt that we could not carry ; carpenters' shops, turning-lathes, figure-heads, relics of old ships, stumps of masts shattered in action, horses and carts, caulkers, painters, coopers, carvers, masons ; here and there a trim sentinel performing his pendulum march—all these meet the eye at every turn. The ear, too, is assailed by sounds as numerous and as various : clanking of chains, rolling of wheels, coughing of steam-engines, and hammering everywhere with instruments of all sizes upon substances of all kinds ; small hammers are heard driving in nails, large ones copper bolts ; wooden mallets are forcing trenails into oaken beams, caulkers' hammers, oakum into seams ; sledge hammers are cleaving wood, and short hammers are riveting sheets of copper ; hammers, too, are rattling on anvils, and amid the whole is heard the heavy, dull sound of a hammer, more ponderous than all, too huge to be wielded by one arm, were it that of Briareus. We must enter one of the smitheries and inquire into the meaning of this. On our last visit we were much struck with the vastness and light and darkness of this building. How different from the roadside smithery, with its low roof and single little fire. Here, in a spacious hall, a dozen or more of huge forges are all at work at once, in a chamber lofty and spacious as a banquetting hall. An immense bar of iron is suspended from a beam by a chain at one end, the other being exposed to an intense heat in one of the forges. A number of men stand round, each resting on a heavy sledge hammer. The iron bar, the shank of an anchor, is wound from the fire, the heated part being placed on the anvil. Suddenly half a dozen men stand around ; each wields his hammer in the air, and down it comes on the glowing mass, sending showers of forked sparks in all direc-

tions; one, two, three, four, five, six, again and again, as regularly and as rapidly as on a peal of bells rung from a village tower. Fortunately for the stout workmen the iron is soon too cold to receive any further impression; no man could long stand such labour as that. The bar is again heated, and the smiths repeat their timeous labour. A substitute has now been found for work of this kind—the Nasmyth hammer—which made the dull massive sound we heard just now. This powerful instrument, worked by the untiring agent, steam, is as effective when employed on minute objects as on the largest; now moulding a massive bar of hot metal as if it were clay, and now forging a nail.

But the heat and clatter and sulphurous vapour drive us from hence, and we proceed to inspect a ship-of-war almost completed, and which is to be launched next spring-tide. This survey ended, we no longer wonder at the size of the sails or the thickness of the cables we saw before, but are now amazed that canvas can be found broad enough to waft it through the water, or chains strong enough to check it in its course, so vast is it and so solid. And yet we are told that most of the props which support it are to be removed, and that then, a few wedges being knocked away and a slight cord being cut, the mighty fabric will move forward, slowly and gracefully, till it meets the element on which its future destiny is to be sealed; that it will make a single plunge, float away for a few hundred yards, and suffer itself to be led captive to the place where it is to receive its masts and stores. We do not doubt it, for we have seen that most majestic of all sights of which man is the author, and over which he has control—the launch of a first-rate man-of-war. We have read many descriptions of a ship launch; that by Campbell is the finest, but none of them adequately describe its grandeur, the thrilling sensation created by the first movement of the enormous mass, or, what perhaps is most striking of all, the astonishment of the eye at finding that an empty space which but now was blocked up by a mass of solid timber. It must be seen to be understood, and then can never be forgotten.

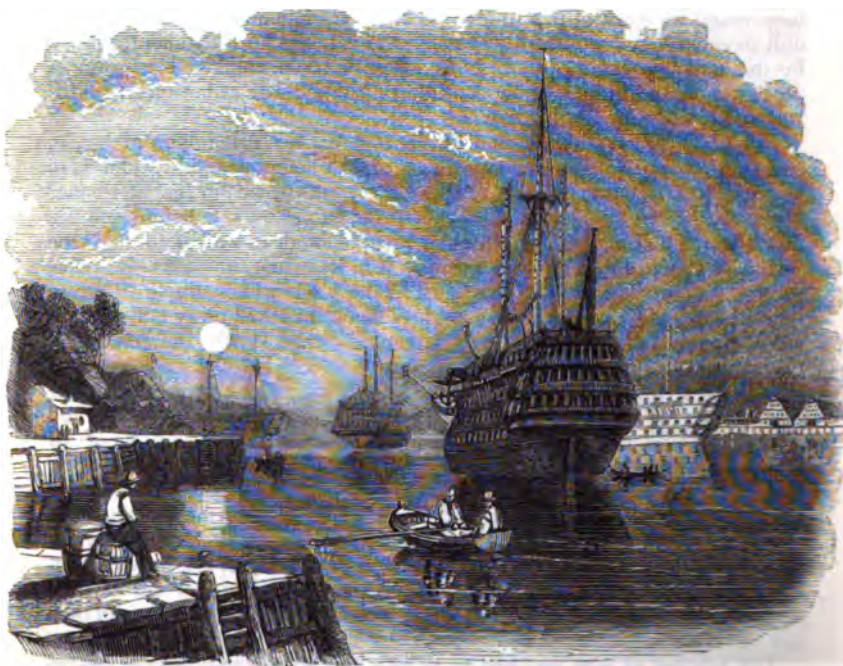
The number of men required to build a first-rate man-of-war in twelve months is one hundred and eighty. To furnish her aloft, it will take twenty riggers thirty days. The cost for labour is calculated at 15,643*l.*, for materials, including oak, fir, and elm timber, iron knees, bolts, nails, copper sheathing, lead, pitch, tar, paint, and oakum, 93,521*l.*; masts, yards, and blocks, 6,873*l.*; furniture and sea stores, 16,805*l.* Total expense of ship and equipment, exclusive of provisions, 132,842*l.*

The other public establishments at Devonport are the gun-wharf and the steam-yard. In the former are stowed away large quantities of muskets, pistols, cutlasses, and other instruments of war; here, too, are kept the pieces of cannon belonging to the ships laid up in ordinary.

The steam-yard is situated higher up the river, and is in an unfinished state. When completed, it will furnish every convenience for the building and repairing of steam-vessels of war, including wet and dry docks, store-houses, factories, and foundries, and will occupy upwards of seventy acres of ground.

Devonport is on the high road from the metropolis to the southern towns of Cornwall, but the river Tamar has proved as yet a fatal obstacle to the extension of a railway; not that the river is too wide at all parts to render a bridge impracticable, but the Government will not sanction any scheme which would necessarily stop navigation and destroy the efficiency of the harbour. Communication is at present carried on with Torpoint, on

the Cornish shore of Hamoaze, by means of a floating-bridge or large ferry-boat worked by steam. The mail and stage coaches are taken across without unhorsing, or even requiring the coachman and passengers to alight.



THE HAMOAZE.

It is much to be regretted that the church accommodation of this town is far from being proportionate to the number of inhabitants. During a long series of years, in spite of the rapidly-increasing population, no efforts were made to provide for their spiritual wants. Recently, however, several new districts have been formed and new churches built. It is to be hoped that very much more will yet be done, and that assistance will be afforded, not only by the inhabitants, many of whom do not know their need, but by the charitably disposed in all parts of the kingdom. We have no hesitation in saying that a town containing such important national works calls aloud for church extension as a national duty.

ORIGIN OF THE WORD "LADY" AND "LADIES."

THE mistresses of manor-houses, in former times, served out to the poor weekly, with their own hands, certain quantities of bread, and each of these was therefore called *Lef-day*, two Saxon words signifying *bread-giver*; the words were at length corrupted, and the mistress is called to this day *Lady*, that is *Lef-day*. Ladies were first introduced to Court in the reign of Louis XII., of France, in 1499.

LICHENS AND MOSSES.

THERE is an extensive tribe of plants, highly curious and beautiful in the exceeding simplicity of their structure, and very widely diffused, of which, although we daily encounter some or other of the species, we take but little note—I mean the lichens.

This group consists chiefly of dry, hard, scaly crusts, without even the semblance of leaves or stems, although in some of the species there are parts to which we shall feel inclined to give those names. The lichens occupy almost the lowest position in the scale of vegetation. A horizontal expansion termed a frond or thallus (Fig. 1 *a*); some shield, or cap-like receptacle (*b*), called apothecium, in which the sporules or seeds are contained; and a sort of fruit-stalk called the podetium (*c*), which is scarcely to be considered as other than an extension of the thallus, constitute the whole plant, except in some instances where a sort of fringe of minute fibres forms a kind of root. The fructification of the lichen is usually dispersed over the surface of the thallus, in some cases seemingly imbedded in its substance, in others raised aloft on the edges of a cap-shaped podetium, and assuming the appearance of a bunch of diminutive brown or scarlet berries.

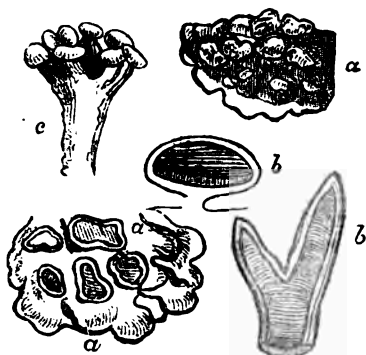


Fig. 1.—SWORD, OR THALLI.

Lindley gives the following description of the lichen tribe:—"In some of these the colour is yellow, brown, or green; the texture of the expansion leafy, and the margin cut up into many lobes: these are the most nearly related to leafy and more perfect plants. In others the expansion is merely a thin crust which readily crumbles in pieces, the species having scarcely vital energy enough to keep the cells of which they are composed in a state of cohesion." The spores of these plants, which are very difficult to find, are lodged in exceedingly minute cells, in the centre of the shields; if you divide one of the shields of any lichens (we will take the yellow wall parmelia, Fig. 2, as an example) perpendicularly, and cut from it a very thin slice, then drop the slice so cut into water, and place it on the slide of a microscope lighted from below, you may perceive that the kernel consists of a "crowd of minute, compact fibres, planted perpendicularly on a bed of cellular substance; and that in the midst of the fibres there is a great multitude of little oblong bags, filled full of transparent cells. The bags are thecae, the cells spores; and it is to the latter that the lichen has to trust for its perpetuation."



Fig. 2.—YELLOW WALL PARMELIA.

Lichens are found chiefly in the temperate regions of the earth. There can be no doubt that the greater part of the tribe derive their nourishment entirely from the atmosphere and the moisture it contains; for though some

of the species exhibit a number of hair-like filaments which contribute to fix them to the places on which they grow, and may possibly aid in their absorption of moisture, the circumstance of their flourishing on the most sterile rocks, where there is not a particle of soil, evinces that it is from atmospheric influences that they are nourished and come to maturity. Linnæus fancifully gave the title of *vernaculi* (bond slaves) to the seaweeds, but the lichens much better deserve it, for they seem as it were chained to the soil, which they improve for the benefit of others. The mode in which these insignificant plants are employed by the Almighty Providence in preparing the face of the sterile rocks for the reception of plants of higher tribes, is very remarkable, and may well teach us the lesson that the humblest being on earth has his own appointed sphere of action, in which, if he yields himself up freely to fulfil the duties appointed him, and to occupy well the station in life in which it has pleased God to place him, he cannot fail of proving a blessing to others, and of giving honour to Him who planned and sustained his being. Whilst living, the lichen forms a considerable quantity of oxalic acid, the materials for which (oxygen and carbon) are supplied by the atmosphere. This acts chemically on the rock, especially if it be of limestone, and forms hollows in which the detritus, both of the rock and of the decaying plant, remain. The moisture which is caught in these little wells sinks into the cracks and crevices of the rock; and when frost comes and seizes on these particles of moisture, it causes them to expand, and thus rends the surface of the rock beneath which they lie into minute fragments—so continually adding to the forming soil. Age after age do these minute servants of their Creator continue quietly and steadily to perform the function of their nature, until at length the barren rock or the volcanic lava is found clothed with soil, and converted into fruitful fields. The mosses follow the lichens, and then come in ferns and other tribes, each one by its decay affording a richer and more plentiful soil to those who come after. Wonderful, indeed, are God's works, and not one of them is forgotten before Him!

There are very many tribes of lichens, and many of them varying greatly from each other. Lindley says: "Some of them (*Gyrophoras*) crawl upon the surface of the earth, spreading their cold and damp bodies over whole plains in the desolate regions of the north; others (*Usneas*, *Ramalinas*, &c.) spring up on the branches of trees, and hang down from them like grey and matted beards, giving the unfortunate plants of which they take possession a hoary, wintry aspect even in the summer; some (*Parmelias*, *Lecidens*, &c.) overrun old walls, stones, and rocks, to which they communicate those mild and agreeable tints, which render ancient ruins so agreeable to the eye; and finally a fourth description of lichens (*Opegraphas*) establish themselves on the bark of living trees, occasionally hanging themselves beneath the skin, through which their shields alone peep forth in the strange form of the letters of some eastern tongue."

The above are but a small number of the varying characters assumed by these singular, but often beautiful plants: let me now invite my readers to the consideration of a few of the most remarkable individuals belonging to the different species. If on your next ride or walk you glance your eyes over any hedge, tree, gate, stone-wall, or other such objects that you may pass, it is probable that on each of these objects (many of which you may have daily passed without perceiving that any vegetable growth whatever adorned their surface) you will find some or other of the lichen tribe in full luxuriance. On the wood of some old gate or park-paling you will

see a dry, mealy crust of a bright yellow hue spreading in patches, the lobes of the thallus very much crowded and overlapping each other, the fruit or apothecia of a shield-like form, with a concave disk almost immersed in the crust, and of the same colour; this is the candle-dying lichen (*Lecanóra candleária*), and here most likely will be some little rough whitish spots of a thin, leprous-looking crust with a rather powdery border: it is the "Rough Lichen" (*Lecanóra pericleá*) which may be found in such stations in all places and at all seasons. The former of these is so named because the Swedes employ it to dye their candles used in their religious ceremonies. There is another of this genus, the Cud-bear (*Startaréa*), which grows abundantly in the Highlands, and is used for dying woollen yarn of a purple colour, for which purpose it is collected by the peasants and sold in Glasgow and elsewhere. Loudon says that when he was in Glasgow, in 1807, a person could earn 14s. a week at this work, selling the material at 3s. 4d. per stone of 22lbs weight, the specimens in fruit being considered the best. It is a greyish substance, and grows on rocks, whence the collectors scrape it with an iron hoop. But to return to our search. On some tree, close by the candle-dyer, you may possibly find a bunch of dry strap-shaped fronds, of a grey and hoary appearance, that is also a lichen; and if you examine it you will see that at a little distance from the point of each thallus there will be one or two beautiful silver-like apothecias upborn on the curve of the leaf (if we may so call it), all crusted over with a delicate silver-white sort of powder.

(Fig. 3.) The name of this is *Ramalína fastigiata*, the "Clustered Lichen." Below, on the mossy bank, spread out in dark, liver-coloured patches on earth or moss—its edges and lower parts of a whitish hue, and furnished with a fringe of fibres which act as roots—is another lichen, one of the *Pelticléus* called *P. canina*—the Dog; if this happens to be in fruit you will see an apothecia of quite a different appearance from those of either of the genera before seen; it looks much as if a drop of brown wax had been placed at two or three parts of the point of the thallus, and the edges of the thallus pressed a little together, and folded down on the wax, so as to support it, yet at the same time leave it visible.

(Fig. 4.) There are many, many more, which you may detect on different objects in the course of a prolonged walk; some yellow, others white, brown, grey, green, all

clustering on the cold stone or dry wood, and imparting to them a richness of colouring which would otherwise be wholly wanting. But our space will not admit of our describing many more varieties; therefore, passing these over, let us look in imagination to the wild heath and moor, where, on the ground and on the different stations of bank and rock and wall, we shall find new varieties of our plants, well worthy of our notice.

There is one species of the genus *Gyrophora* called the *Tripe de Rocka*, or "Tripe of the Rock," from some resemblance which it bears to that article of diet, which supplies the Canadian hunters with food when none



Fig. 3.—CLUSTERED LICHEN.



Fig. 4.—DOG LICHEN.

better is to be procured; and it is said to have been the only sustenance of the enterprising travellers, Richardson and Back, when with Sir J. Franklin they were exploring the wild northern districts in pursuit of science. There is also the *Cetraria Islandica* (Fig. 5), or "Iceland Moss," which is sold here by druggists, and is exceedingly useful for food, forming, when boiled, a fine nutritious jelly highly important to the inhabitants of Lapland and other regions. In England it is often given to consumptive



Fig. 5.—ICELAND MOSS.



Fig. 6.—STAG'S HORN MOSS.

patients boiled in milk, and also used in the form of an infusion as a slight tonic, for which its bitter properties well fit it. This, as well as other lichens, is abundantly eaten by rein-deer; and *Evernia prunastri*, the "Stag's Horn" (Fig. 6) is another heath-lichen of great beauty. The *Cenomyce rangiferina*, or true "Rein-deer Moss" (Fig. 7), is however one of the most important of this tribe of plants, as well as exceedingly beautiful in appearance. It is branched and hoary, and grows many inches deep on the ground, the surface of which it often overruns for many miles together, and furnishes the chief part of the food of the rein-deer. Linnaeus says that there is no vegetable which grows so abundantly as this, "especially in woods of scattered pine, where, for very many miles together, the surface of the sterile soil is covered with it as with snow. On the destruction of the forests by fire, when no other plant will find nourishment, this lichen springs up and flourishes, and after a few years attains its greatest size. Here the rein-deer are pastured, and whatever may be the depth of snow during the long winter in that climate, they have the power of penetrating it, and obtaining their necessary food." An interesting account of this plant, as well as of the animals which feed on it, is given in the 'Flora Saponica' of this author.

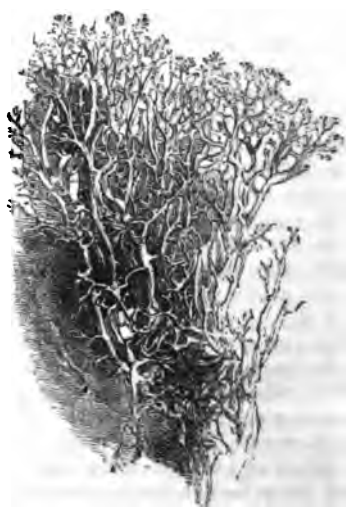


Fig. 7.—REIN-DEER MOSS.

In this genus, *Cenomyce*, are placed several of our most interesting British lichens, most of them being found on the wild heaths and moorlands, in hilly districts, to which I have invited the attention of my readers. The word *cenomyce* is derived from two Greek words signifying "empty," and a "minute fungus," and it is highly expressive of the appearance of most of the species, which form little hollow, fungus-like receptacles. There are many varieties of these: they are usually found cropping up amongst moss, and mixed with other lichens on rocks and banks, although sometimes they spring up on the bark of trees. The common grey cup-moss, *Cenomyce pixidata* (Fig. 8), called by Gerard by the pretty name of "Chalice-moss," is one of them. It is very elegant. A little cluster of glaucous leaves first appears, from which spring ascending shoots branched towards the top, the apex of each branch swelling into a little cup-shaped vessel, which might contain a drop or two of water. From the margin of these little receptacles, in the course of time, spring others like them, so that you have eventually a cluster of little cups raised on stalks, and growing on the edge of the original cup. The apothecia in fruit is brown, and appears on the edges of these little vessels. There are some other species of this genus in which these cups, as well as the podetia, are thickly set with minute leaf-like thalli of a glaucous-green powdered appearance, exquisitely lovely; when in fruit, the apothecia, which are scarlet, and formed as in *pixidata* on the edge of the cups, look like clusters of tiny bits of coral set in silver. Another kind, *C. bacillaris*, or "rod-like," branches off into longer and more pointed divisions, the cups being deep and narrow; and another (*C. delicata*), too minute to delineate, form a mealy patch on rotten rails in the winter; and, when examined with the microscope, presents an appearance something like a diminutive cauliflower. But we must forbear; for time would fail us if we were to enlarge on the many useful and beautiful varieties of lichens which yet remain unnoticed. The little we have said may, however, tend to show that even this minute branch of the vegetable kingdom holds out much of interest which may reward the attention of the diligent student of nature, and lead him to praise and admire the working of Him



Fig. 8.
CHALICE MOSS.

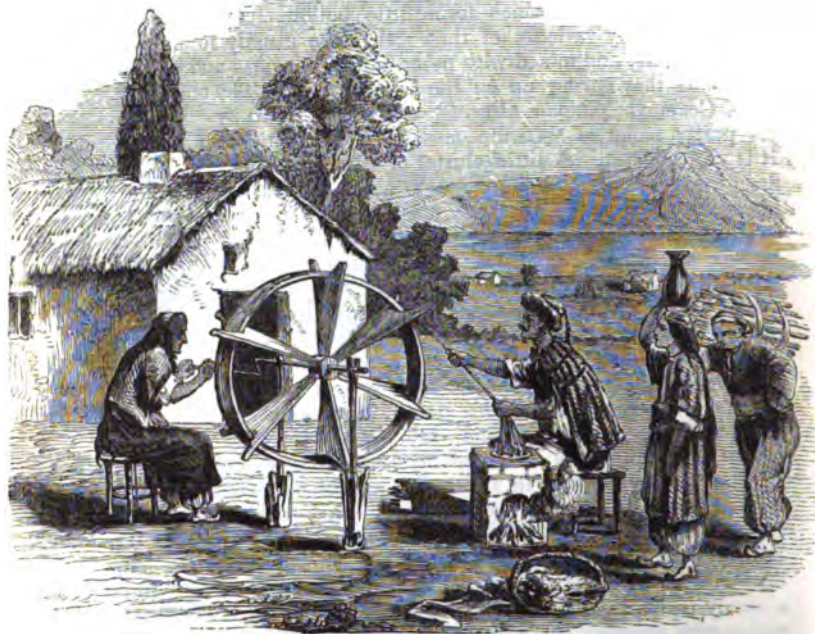
"Who planned, and reared, and still upholds a world,
So clothed in beauty, for rebellious man."

LIFE.

THUS we act: and thus we are
Or toss'd by Hope or sunk by Care.
With endless pain this man pursues
What if he gained he could not use;
And to'ther fondly hopes to see
What never was nor e'er shall be.
We err by use, go wrong by rules;
In gesture grave, in action fools:
We join hypocrisy to pride,
Doubling the faults we strive to hide.

PRIOR.

THE FOUR HARVESTS IN SYRIA.
THE MOWSOOM, OR SILK HARVEST.



SILK HARVEST.

It is difficult to discover at what exact period the introduction of the silk-worm into Syria was effected, or, if originally existing, when and how its wonderful capabilities were developed and put to common use. If the art of reeling and manufacturing silk existed in Egypt so far back as the days of Pharaoh, Joseph's patron, that is seventeen hundred and fifteen years before Christ, or if it was known in Syria in the days of the wise King Solomon, one thousand and fifteen years before the advent of the Messiah, then it is evident that the subsequent wars and revolutions, earthquakes, and leadings into captivity, served effectually, not only to annihilate the worm and its seed, as likewise, in all probability, the mulberry on whose leaf alone it subsisted, but also to eradicate from the memory of man that knowledge of the art and science of reeling which, even in the present civilized era (when perfect machinery has brought that art to perfection), requires a long apprenticeship, before the eye and the hand can be properly adapted to the extremely delicate and fragile nature and texture of that insect-wrought substance, which requires the greatest nicety with regard to the quality and the strength of the threads to be wrought into a raw material, strong, endurable, brilliant; and which, resisting exposure to long sea-voyages, is worked by cunning artizans into what are termed manufactured silks and satins, the most beautiful in pattern and colour, and in this state oftentimes

reconveyed to the very land whence the raw material was imported, and there converted into ornamental clothing for those very men whose care and skill reared the small worm from whose grateful storehouse, the cocoon, this boundless source of wealth, comfort, and elegance has been reaped. That both the mulberry and the article silk were known from the days of Jacob, and in the times of David, is clearly evident, as proved by Holy Writ. In Genesis (xli. 42) we are told of Pharaoh, that he "took off his ring from his hand, and put it upon Joseph's hand, and arrayed him in vestures of fine linen," which word, linen, is also translated as silk. Again, in the book of Proverbs, amongst the praises and properties of a good wife, it is said that "her clothing is silk and purple." (Prov. xxxi. 22.) Ezekiel, in exemplifying God's extraordinary love towards Jerusalem, uses in his sublime metaphor the expression, "and I covered thee with silk." (Ezek. xvi. 10.) And lastly, and most recently, we have mention made of silk in the book of Revelations, supposed to have been written A.D. 96. St. John, in prophesying against Babylon, and enumerating the rich merchandize, for the loss of which "the merchants of the earth shall weep and mourn" (Rev. xviii. 11 and following verses), mentions the "fine linen and purple, and silk and scarlet." From all the foregoing quotations, it is clearly evident that silk was known and considered as a costly luxury, even in the days of the patriarch Jacob; but it is almost as evident that this silk was only known in its manufactured state, as it was imported by wealthy merchants from China, the distant Indian Continent, and, perhaps, more recently from Persia, in all which countries, through many centuries, the culture of the worm was a secret imparted to no strangers, and the exportation of the silkworm seed forbidden by law, the transgression of which awarded death as a penalty. Hence there can be little doubt that the silkworm was wholly unknown in the Levant, till an enterprising and intrepid monk, at the suggestion of the Emperor Justinian, who died A.D. 365, undertook a voyage to the silk regions of India, and on his return from thence ingeniously contrived to procure a hollow walking staff, the cavity in which he secretly stuffed with silkworm eggs, and so contrived, unsuspected, to resume his staff, and after many hardships and fatigues to arrive at Constantinople, where the white mulberry tree from Persia had already been introduced and was flourishing, and where the worm so well succeeded as to enable the whole of Europe and the Levant to procure supplies of eggs, and in the course of a very few years to be entirely independent of India and China for the supply of this valuable staple commodity. We have many proofs in Scripture that mulberry trees flourished at least in the time of David; but the silence of the inspired Psalmist on the subject of silkworms—a creature so well suited to excite the admiration and surprise of the good king of Israel, who was ever ready in the survey of creation to turn every and the minutest creature to the glory and praise of the Creator,—this silence alone is convincing proof that the worm did not exist in Syria in the days of King David, else most assuredly it would have ranked amongst those many works of creation which are recorded as abounding with evidences of the mercy and love of God in the hundred and fourth Psalm. The mulberry trees were doubtless the black mulberry, cultivated then, as they now are, for shade, for the fruit, for the fodder the leaves afford to the cattle, and for the fuel yielded by the branches annually lopped off in the autumn, but which mulberries are entirely useless in the cultivation of the silkworm. Having taken this brief survey of the probable antiquity of silk in Syria and the Holy Land, we will, with the reader's permission,

leap over a space of nearly fifteen hundred years (that is, from 365, when the silkworm was first introduced into Turkey, to 1852), and saunter leisurely arm-in-arm into a mulberry plantation in the neighbourhood of the old town of Latachia.

The spring is still young. Last week a heavy fall of snow, and a violent breeze of wind, argued ominously of winter; but hardly has the snow been swept from off the thatched roofs of the cottages, and the ground round about the mulberry trees been ploughed up, then out bursts the sun with renewed vigour. The envious clouds have all taken flight; the sky is serene and of transparent azure; the sea is calm, and the small grass thriving rapidly. April has arrived, the mulberry plants put forth their buds, and almost simultaneously the long-torpid eggs of the silkworm burst into life and activity. Countless armies of barely-discernible mites of worms are crawling to and fro over the linen sacks, where the eggs have been kept ever since last year's silk was reeled, carried to the market, and disposed of. The peasants hail the new comers with undisguised delight; they also wake up from the sluggish apathy of the cold winter season, and men, women, and children are busy making ready against the approaching *mousoom*.* The first step taken is to collect some flat wicker baskets which have been many months heaped up with lumber in a corner; these are dusted and cleared of cobwebs and other rubbish, then they are covered with a fresh layer of soft clay, and so exposed to dry in the sun for that day. The morrow arrives, and the mite population of worms begin to evidence symptoms of the cravings of nature; they are hungry, and must be fed. Now, for so delicate and tiny a creature as the worm is in its earliest state, no full-grown leaf, however small, but would prove too coarse and unadapted for its food. The Creator has, in this as in every other instance, provided for the wants of the creature; the tender, soft bud of the mulberry, when carefully rolled in the hand, supplies just what is wanted by the little worm. A handful of these tender buds are sufficient to nourish thousands of the young silkworms; and the same numbers that are now satiated with this handful will, in the course of a few weeks, as they grow larger, and as the leaves, keeping pace with them, grow larger also, require for their daily sustenance the complete foliage of not one, but of from six to eight full-grown flourishing white mulberry trees. Sometimes one or two of the sacks containing silkworm seeds, from some undue exposure to the cold of winter, are backwards in being hatched; when this is the case, the peasant and his wife and family divide the eggs amongst them, and, carefully wrapping them up in small pieces of flannel, carry them about under their armpits for a few hours. The artificial heat thus produced usually results in the eggs all being hatched. During the first week the young worms remain in the wicker baskets already alluded to, and are more especially under the care of the peasant's wife and children. Comparatively speaking, only a small quantity of leaves is required for their daily food, and these are gathered off the tenderer branches of the mulberry. Meanwhile, the peasants are actively engaged preparing the *kokhs* for the reception of the silkworms.† And the worms themselves

* Arabic for harvest.

† *Kokhs* are low buildings erected expressly for the rearing of the silkworm; they consist of one long, high, thatched room, built of sunburnt bricks, with large open windows trellised in with dried myrtle-bushes and briars, so as to effectually exclude serpents and birds, at the same time that they will admit of a free circulation of air.

thrive prodigiously: by the end of the week, what you could barely distinguish without the aid of a microscope, has attained to a respectable size, and is nearly half an inch long. The first week has expired, and the worm has outgrown the original skin or casing with which it was hatched. It now lies in a torpid state, to all appearances dead, for more than two days; no fresh leaves are gathered, no attention whatever is paid to the suffering worm, who is during this period occupied in disentangling itself from its first skin. Many of the weaker worms die under the process; the rest revive again with renewed energies, and though the original number contained in the wicker baskets has been considerably diminished by casualties, yet they have now attained to such a growth that it is found requisite to remove them from these baskets, and to place them on the mat shelves which are suspended on poles the whole length of the kokh on either side, and rising one above another with intervening spaces of about a foot between each, from the bottom right up to the top of the building. During the interval that the worms are in a torpid state, the peasants entertain a foolish and absurd superstition that they are imposing upon themselves a voluntary fast.

When the worms are once duly installed in the kokh (and this is not done without a great many superstitious ceremonials), then the care devolves entirely upon the peasant and the other male members of the household; because the tending of the worm now becomes a work of manual labour. Whole branches of mulberry trees have to be lopped off, so as to meet the increasing and voracious appetite of the worms; these branches are then dragged or carried on the back to a space in front of the kokh, and whilst the men with sharp scythes lop off the twigs of the branches, the women rub off the leaves with their hands and carry them away, aprons full at a time, to sprinkle over the worms, till they compute that all have had a sufficiency. The worm now becomes vigorous and thrives marvellously; yet for the two weeks immediately succeeding its first state of torpor, the peasant finds that cutting branches once a day (that is, early in the morning) supplies a sufficiency of leaves to satisfy the cravings of the worms through the twenty-four hours. After this period, however, the worms relapse into a second torpor less baneful in its effects, for they have now attained a growth and strength which enable them, with comparative facility, to change their skins: from this state they awake with greater avidity for food than ever. They are now nearly two inches in length, and proportionately stout and sleek, and the peasant finds his labour doubled, being compelled now to lop branches for the worms every morning and evening; they do not cut all at one lopping, because the leaves, if kept through the heat of the day, would become dried up and without nourishment for the worm; and if kept through the night saturated with dew, than which nothing is more prejudicial to the worm, hence it arises that the peasant will never cut the branches of the mulberry before eight or nine o'clock in the morning, when the heat of the sun has perfectly evaporated every moisture.

After the second torpor, the worms thrive monstrously; they are continually eating night and day—day and night, and the noise this process of mastication creates, especially after fresh leaves have just been supplied, resembles for all the world that produced by a pelting shower of rain on a thatched roof. Two weeks elapse and the worms are still surfeiting; but they have now attained to such a huge size that the peasant feels persuaded that the time for weaving their cocoons is not far distant, and, accordingly,

he takes his donkey and his eldest son with him, and these go many hours' journey till they get amongst wild brushwood and myrtle bushes: with these the donkey is laden, and the father carries a heavy burthen and so does the son also, and then all three return home, and the brushwood and the myrtle are dried in the sun; and then the worm, which has run its worm's career, ceases all of a sudden to eat—a rather lucky event, as nearly every tree in the plantation is now branchless and leafless: such havoc have these worms, which were at first birth satisfied with a few handfuls of the tender buds of the mulberry, now committed. The worms have attained their full growth, and so they lie by a day or two to digest, and are now in the third and last state of torpor as a worm. The brushwood and myrtle are denuded of leaves—the worms awake again to activity, and for the first time since they were hatched they evince a restlessness which they never before gave any symptoms of; the largest circuit that any of them had hitherto performed having been round the edges of a good-sized mulberry leaf. Now, however, they are crawling about in every direction, some striving to climb up the slippery poles that support their mat shelves, others again creeping along the edges of these mats, and some few falling upon the floor, and becoming an easy prey to hordes of busy and hungry ants. The peasant no sooner perceives these symptoms than he carries in the dried brambles and twigs, and carefully scatters them over the worms; the worms instantly take to them, and before two hours' time not one amongst them but what has selected its spot where to weave its rich store-house of silk, and to make itself a soft comfortable bed to sleep in for the fortnight it will yet remain a worm. Alas, poor little worm! see how carefully it turns its head and bends its body from side to side, watchful lest any thread should catch, careful to fasten one here, or to carry another there—perfect mechanic—self-taught, yet wonderful in skill, and yet so rapid in every motion, that the fabric grows perceptibly under the eye; soft, soft silk, first brittle as the cobweb, then glutinous and shiny, yet easily deranged by the flap of a wasp's wings—growing in thickness, yet wonderful precision. Formed to perfection, circled in the centre with a band soft and easy of destruction, to-day, yet gradually increasing in firmness and substance, the cocoon is set; the soft wind of summer has hardened the glue, and you may take it to-morrow and toss it from one end of the garden to the other, and yet the worm will slumber quietly and securely within the shelter of the shell of that wonderful construction which God has taught the creature to build around its fragile and delicate body. Alas, poor worm! laying up much riches for others to reap; building a house from which to issue forth as a bride all clad in satin, white as the driven snow.

After the cocoon is duly formed, the peasant locks the door, and the key is handed over to the proprietor of the plantation; fifteen days after the cocoon is set, the silkworm-moth issues from its shell, and as to do this it perforates the cocoon, which is thereby rendered unfit for reeling, care must be taken that all the quantity (excepting so much as is kept to preserve the seed) be speedily reeled off. Temporary furnaces in the shape of ancient altars are erected; the large unwieldy wheel set up, the branches which have been cut during the season, now serve for fuel to warm the water into which the cocoons are thrown, and whipped with small birches till the water is all frothy, and the fine ends of silk detach themselves from the cocoon; these the peasant carefully draws out till he has got as many as twelve or fourteen threads from as many cocoons; uniting these together

he attaches them to a small peg in the wheel. The wife turns the wheel; daughters fetch water to keep up an even temperature for the reeling; the sons fetch fuel and feed the fire; the husband knots the threads as they break, or supplies the vacancies of spun-out cocoons by fresh ones, from a basket placed close by his side. Before the cocoon is fit to be reeled it undergoes the process of picking; that is, the fine fibrous substance encircling the cocoon is detached from it, and this matter constitutes what is called cotton-silk, a substance much used by jewellers for packing-up costly gems. In choosing cocoons to breed from, the peasants are always careful to pick out the smallest and hardest, which are considered the best cocoons. At the expiration of fifteen days, the silk of every kokh has been reeled off. The large wheel is covered with bright glossy golden silk, the produce of the last day's reeling, and the skeins reeled prior to this are hanging in elegant festoons from the stumpy branches of the boughless trees, to be well aired and dried before being packed up and sent to market. The women have brought out the small wicker baskets again, but they are this time full of the seed cocoons. The moth has just perforated through, and a few minutes' exposure to the sun brings it to perfection; truly the down upon its sleek body, and its small compact wings, all white as the driven snow, might rival the finest satin-velvet ever invented: they run busily, flapping their wings, but they are too heavy to fly: each seeks for its mate; the male moth, born only this morning, dies some hours before the sun has set in the west, the females only survive the males by a single day, and during all this period they are busy laying eggs. It was computed that each moth laid from 1,700 to 2,000 eggs—so prolific is this valuable creature. These eggs are suffered to dry for a couple of days, and are then carefully scraped off with a knife and placed in linen bags, which bags are suspended to the ceiling. There is no fear of any harm coming to them there, nor will the peasant ever trouble his mind about their existence till summer, autumn, winter are past, and the glorious spring season visits the earth once again.

The silk is sold; the battours or shelves are taken down and thrown into a corner with the wicker baskets; the manure of the worms, together with decayed vegetable matter, is carefully swept up into a corner, there to bide the approach of winter, when this matter will prove acceptable food to the hungry goats which are suckling their young kids. The mulberries begin to bud and sprout again, other trees are deep laden with rich fruit; there is a stench upon the earth from the accumulated thousands of dead worms, stifled in the reeled-out cocoons; rooks and carrion-crows, however, speedily rid us of the nuisance. The merry song of the peasant at his wheel has ceased to resound in the gardens; June has entered in her kalends, and the mowsoom, or silk harvest of Syria, has been reaped.

ORRERY.

A MACHINE which exhibits the relative distance of the planetary bodies, and shows with some approach to accuracy the motion of the planets round the sun, and the satellites, or moons, round their respective planets or primaries. The first instrument was invented for, not by, Charles Earl of Orrery, by Mr. Rowley, of Lichfield, in 1670, from whom the machine received its name. It is said that this first orrery is in the Museum of George III., at King's College, London.

THE RETURN

It was a lovely evening in the middle of July. The day had been extremely warm, but the air was now cool and refreshing, and the scenery around was such as a lover of nature delights to contemplate, or the painter and the poet to portray. The goodness, power, and wisdom of "the Hand that made them" was stamped on every object, inviting in their own "still, small voice," the heart of the rational creature to adore and trust and glorify his Creator. There is, indeed, much in life's weary way of bitterness and pain, of privation and hardship; but there is one happiness, one gift denied to none, though, alas! enjoyed by comparatively few—the power to comprehend and admire the works of nature, and to rise above the world's cold smile or the frowns of fortune, in holy and tranquil communion with the Father of all, our Benefactor and our God.

Within a neat, but humble cottage, at a short distance from a public road, sat an aged female, absorbed, as it would seem, in her occupation of knitting stockings. Any one near her, however, might have heard her occasionally sigh deeply; and seen that she sometimes pressed the needle on her silver brow, either in the vain attempt to cool its heat, or to relieve a weight that there oppressed her. She was alone, and the solitary ear may be soothed even by our own voice. She murmured first to herself, then shook her head, sighed, fixed her eye for a few instants on nothingness, resumed her work, and by degrees spoke articulately.

"Yes! hope deferred doth indeed make the heart sick, sick almost to death. Seventy years have risen over these hills since, as on this day, I was a wailing babe in my poor mother's arms. Seventy years! a long time, one would think, to look back upon, and yet how short a one. Seventy years! and after all nothing in them that others have not known before me, or shall know hereafter. Maid, wife and widow. I have felt joy and sorrow, seen bright days and gloomy ones, like all others. I have wept for many who should have wept for me, closing the dear eye that had first looked at me, and clothing with the shroud the precious limb which I had first bound with the swaddling-band. Well, well, all must have an end, even sorrow cannot last for ever, and by-and-by some kind friend will do for me what I have refused to do for none."

She was silent, the fall of her ball of worsted had interrupted the chain of her thoughts; but it was quickly restored, and she again spoke.

"And I was married on my birthday—how happy I was! I see it all now, feel it all now, as I did then; surely they are fools who say souls can die, or spirits decay. I am what I was, as keen to love, as quick to suffer or enjoy as then, and shall be to the last. . . . Yes, yes, all comes back again to me. I had made the cake, mother the pudding, everybody praised them. She had no trouble in what she did, all went right with her; my task was done the evening before, that it might stand to cool. John was by my side when I drew the cake from the oven; how well I remember it. The heat had caught it, and it was scorched a little on one side. I was vexed, for it spoilt the look of it, I thought. 'Never mind,' said he, with his good-humoured smile, 'it will eat never the worse, so what signifies that the outside is a little discoloured, Nelly?' and he fixed his eyes on me as he always did when he was serious; 'this may be a sort of picture of our future lot. It won't be all fair and well to look upon, or, I dare say, as we should like to have it. We shall have our light and dark, our ups and downs, sunshine

and shade, but what then? we need not change; and if we love one another as we do now——.

"His look and voice were too much for me, and out it came. 'If you will always love me, John, as you love me now,' cried I, and the silly tears almost blinded me: 'what care I, come what will, fair or foul, work or play, rich or poor, all will be the same to me.' And it was the same; a husband's kindest smile makes all things smooth, and he was the kinder as troubles grew greater or came faster. 'It is God's will,' he would say, 'and be sure when the blast is spent, good will spring out of the calm; nay, good comes with the angry wind, and never lags behind but when we force it back. Do we not love one another the more, as we more and more feel each other's need? and is not that good? Do we not draw nearer to Him who made us, and tells us He smites us but in love, as more and more we see it is our duty to seek Him, and feel it to be our comfort? and is not that good, and better still? Cheer up, Nelly, we go to sleep in sorrow, but who shall say we shall not wake in joy!'

"No one now says, Cheer up, though my ear is not too dull to hear, nor my heart too heavy to answer. When I kneel on his grave, or weep on my pillow, my voice it is, not his, that utters the words, and they stay no tears, relieve no burthen, wake no spring again in my breast. Oh! death draws many floods from loving eyes; but ask the widow whose tears are bitterest, whose scald the most."

She laid her knitting on her knee, and clasped her hands before her face.

"Granny, granny Reynolds!" exclaimed a fine little boy, putting his head in at the door.

"Well, Robert," said she, starting; "what is it you want?"

"May mother have a pitcher of water from your well," replied he, "our well-hook is gone? But ar'n't you well? I shall be sorry for that."

"I am pretty well, thank you," said she.

"Then what did you hold down your head for?"

"I was thinking."

"What about?"

"It is my birthday."

"Your birthday, granny!" exclaimed he, coming close to her and looking at her with surprise. "I did not know old women had birthdays."

"There is a time to be born and a time to die," replied she, "but there are many returns of birthdays between those two ends; and after all, Robert, your birthday does but draw you nearer to your grave, young as you are, as mine brings me to my long home."

"But you are not going to die yet, are you?" said he; "I should be so very sorry."

"We know nothing about this," returned she. "I shall die when it pleases God, and that must neither grieve you nor me. But you forget the water, and you can't draw it."

"No," replied he; "but mother says you will do that for me, and then I can carry the pitcher. But can I do anything for you?"

"Nothing; but I must knit this needle in first, and then I will go with you," said she.

Robert was standing, by this time, as close as possible to the good woman. "Now can't I do something for you," he repeated; "help you to make your bed?"

She smiled, "No, thank you," said she; "it has been made a long time, ever since the morning: are not your beds made?"

"Oh no," cried he, shaking his head. "Mother went a haymaking this morning, and she had only begun to make them when I came here, and she is so tired, she wants her tea."

"Then we will not lose another minute," returned she. "Why didn't you tell me so at first." So saying she took the pitcher, and having filled it, gave it to the little fellow, who started off with it very courageously notwithstanding the drops that fell fast into his shoes.

Mrs. Reynolds reseated herself, and again commenced her work. Her thoughts were diverted from their original strain, but it was to exhaust themselves only on others which the sight of the boy awakened, and which were closely connected with the former.

"Dear child!" sighed she, "how does that prattle move me! And said I that the sorrow of death was the sorest? alas! alas! what is that to the sorrow of sin and shame? No, no, there is the sting that always rankles, the wound that never heals, the pang that never sleeps. Who ever comes to tell me whether my poor boy is dead or alive, restored to himself, though he may be never restored to me? Never absent, ever near, he is my first, my last thought, my thought by day, my dream by night. It was on my birthday, too, that we parted. 'Mother,' cried he, as he took leave of me in the prison-yard, 'I have been very weak, but not wicked; my crime is in forming fellowship with those who had nothing to recommend them but their pleasant manners; they have made a fool of me. I would not knowingly have done a dishonest thing, but they were too deep for me; the punishment of their villany has fallen on me, and not unjustly either.' My sentence is severe, but the judge and jury have done their duty, and I owe a grudge to no one. I was found in the company of thieves, and had their spoil on me, and such company condemned me, and will condemn any other man in such a case. Mother, and he took both my hands in his, 'if it be possible, I will return to you far more worthy than I leave you; but I will not return to you till I have washed out my fault and gained a new character; till I have earned enough to make your old age easy, and made work unnecessary to you.' Seven years have sped since these words were spoken, and three still longer years have followed them. Months have passed and not a line has reached me. Is he dead, or has he forgotten me? dead he may be, and I a widow and childless without hope: but if he is alive, he loves, he remembers his mother still."

She took the fellow-stocking to that she was knitting, and found to her surprise that she had "got on" quicker than she had expected, that it was quite "time to take in:" the operation was commenced.

"They say it is hard to work for one's living," muttered she; "if we were always light-hearted and happy it might; labour would then break in upon our joys; but work is comfort to the sad and lonely, and so God, in mercy, no doubt made it necessary for His fallen creatures; for idleness in woe would have made earth a place of torment."

The shades of evening were now beginning to gather, and "twilight grey had in her sober livery all things clad." "Silence," too, "accompanied," for the good woman was either too intent on her occupation to hold converse with herself, or too much buried in thought to give it vent in words. She neither saw the approach nor heard the step of a person, nor was startled by his voice when he asked permission to sit down and rest himself in the porch beside the door. He was weary with long walking, he said, and had felt the heat of the sun severely. The request was readily granted. There was nothing unusual in it, and the widow did not raise her yes as she answered him, nor even when she offered him a "drink of

water," the only refreshment she had to give. He thanked her, but declined her kindness, at least for the present, for he alleged he was afraid to drink whilst he was so warm.

Neither spoke for a minute or two. At length the stranger said—

"How sweet is the scent of this woodbine! and how scents take us back to years long gone by—this smell makes me a boy again. Does it not affect *you*?"

But Mrs. Reynolds was not listening to him, and he was obliged to repeat the question.

"I am accustomed to the smell," said she, when she comprehended his meaning.

"Then it is nothing to you?" returned he.

"I don't say that," replied she; "if anything was to happen to this woodbine, and I should miss its sweet scent, I should lament it more than I could tell; its loss would be a loss of part of myself."

"Then you do value it?" said he.

"I have told you so," answered she; "it will often have more flowers than leaves, and then its scent fills my cottage. I may not heed it, because, as I said, I am accustomed to it, and so I am not aware of any particular pleasure it gives me; but if I was to smell it no longer, and should be sensible of the difference, which I dare say I should, pain, cutting pain would follow. It was a dear hand that planted it, and a dear one that first trained its straggling branches over the porch; and the meanest thing is precious that love makes its own."

"Who planted it? who trained it?" asked the stranger. But she had no wish to reply, nor to enter into conversation. She was often assailed by questions from those who thus profited by the shelter of her porch, for the sake merely of lengthening their own stay. She cast a glance, indeed, at the man, but it was one almost without meaning, and certainly without curiosity, and quickly returning to her work, she soon seemed to forget that any one was near.

The stranger coughed, moved his position with a view to attract notice, but in vain. Many a wayfaring man had sat down in the porch and quitted it unobserved when it had pleased him. At length he started on his feet; made one rapid step into the cottage and extended his arms exclaimed,—

"Mother! do you not know me, or will you not own me?"

Starting at his entrance, she had risen from her seat; she gazed wildly on him, then uttering a cry, she threw herself on his bosom, and, though violently agitated, still preserved her consciousness. It is the sudden blow of misery that benumbs the recoiling sense; too bright a flash of joy dazzles our mental vision, but it loses none of its own lustre in the darkness that succeeds it.

"Mother," said Reynolds, as the good woman, now calm, yet with a countenance full of the happiness within, sat gazing on him, his hand locked in hers, "you say it is strange I should just come back to-night. Well did I remember it was your birthday, and I was determined, if possible, to reach you before it closed. Every year that I have been separated from you, I have pictured you to myself on this day, thought of you, prayed for you, prayed that I might again see you and tell you all that thinking of you has been to me. Oh! mother, recollection of you, trust in your promise that you would ever remember me before God, has been my stay, my support, my comfort, and my hope. How often have I

murmured to myself, sometimes in sickness, sometimes in sorrow, sometimes under harsh treatment, and now and then in joy, 'My mother thinks of me, prays for me, is, perhaps, at this very moment on her knees for me; but murmur these words when or where I might, the effect has been the same. I have struggled against every difficulty, every discouragement, and have come off victorious over all. I was never vicious, as you know, but I was always weak and easily led astray. I paid dearly for this defect, and my punishment, severe as it was, might have failed of its end; but I loved you, and I could respect, and at length copy much that I have seen and valued in you. I had that by me at all times which too many, alas! have never had, never will have—the memory of the good example that had been set me by my parents, and especially by yourself, whom I could best remember. For your sake I conducted myself well (God working in me all the time); I found friends; I learned to respect myself, and by degrees I began to be a prosperous man. I speak of the time when, after my term was expired, I entered into business on my own account. I spent, however, as little as I could upon myself, in the anxious hope that I might be able to provide for your old age. I have gained my end—you shall work for the future for your own amusement only, and till I can find a daughter for you, I will be both son and daughter to you. Oh! that all mothers would act as you have done. They may have wayward and even wicked children; but confident I am, that a good and virtuous mother's conduct, example, and words, are never entirely thrown away. The seeds she sows, unknowingly indeed, are never wholly destroyed and lost, never utterly unproductive; the fruit may be straggling, unhealthy, and deformed, but there will be fruit, though, after its kind; and who shall say how the dew of God's grace may yet act upon it, and change its deformity into shape and flavour? Yes! a mother's love is often a stepping-stone to heaven—the ladder by which, when all other props may have fallen away, the penitent mounts to the throne of mercy, there to lay his sin and his sorrow, and win forgiveness for his Saviour's sake."

"You say too much, my son," said the good woman, gratefully smiling, and much affected by his words and earnestness.

"No," replied Reynolds, warmly; "I speak but the truth. For one desperately wicked man there are hundreds of a character like my own; men not loving the wrong, but too weak to persevere in the right. I do not say, for experience would show me the contrary, that a good mother's care would be never thrown altogether away upon the first; but what I maintain is, that it is seldom or never thrown away upon the latter. The rain falls not more softly on the tender grass of spring to nourish and refresh it, than does the thought of a mother, on the worn, the weary, the bleeding, or the aching heart of a son whom she bore and nursed. That thought may smite, but there is healing in the smart; it may reproach, but it provokes no angry or bitter retort—it melts him to tears only to dry his sorrow, and shames his manhood to restore the better feelings of his youth. Yes! thought of his mother is the link which unites the penitent convict to the society he has forfeited, nourishes the hope that his claim to the restoration of its privileges and comforts will be allowed, and reconciles him to his probation. That godly habit of yours, my dear mother, in praying when the sun is setting, and your promise founded on it, that you would pray for me especially at that hour, will be, and I hope has already been, blessed both to you and me. True, we gazed not together and at the same time on the departing orb; but that was not considered; the end

was answered, and the impression was the same. The knee that might have stubbornly refused to bend, if left to itself, or in forgetfulness had neglected to do so, won by that warning beam, sunk low on the earth; if I were alone, or surrounded by many and still at toil, my heart silently lifted itself to that Almighty being who is my God and my mother's thought far away."

His voice faltered; he cast a look of the fondest affection upon her, and leaning on her shoulder, endeavoured to hide the emotion he could not suppress.

"Come, cheer up," said she, soothingly, stroking his hand; "I can say those dear words now, and feel them too: the sorrow is past, my son, the joy remains. For a little while our God has smitten us, and now with great blessings he has returned and blessed us."

"Those were my good father's words," said Reynolds, "and I honour and respect his memory; but good as he was, he was not to me what you have been. A mother has a hold over her son so powerful, that I could call it almost mysterious; but God gave her that power, and therefore it must be meant for the benefit of her child."

"How then should a mother feel such a charge?" said she quickly, "you make me tremble at the thought of having had so much to answer for."

"You need not," replied he, looking affectionately at her; "it is not the weight of a duty that should give us fear, but the neglect of fulfilling it. When God puts power into our hands, it is not to tempt or to oppress us, but as a means to honour and reward us if we use it properly. I have lived long enough in the world to see and be convinced, that amidst all the seeming confusion that is around us, or in the natural orderly course of things as we say, there is a guide at the bottom of all—a judge that deals a recompense just and certain to all our actions. Oh! that my voice could reach every mother in the land. 'Pray for your children,' I would cry, 'pray for them at all times, and under all circumstances, they will need it all. Let them know, too, that you do so; you may never learn the exact effect of your prayers, but of this you may be assured—they will not be useless; they may bring down blessings to yourselves on this earth in the recovery both of soul and body of those far away from you, and exposed to danger, from which no mortal aid could save them; they may be winning joys for you in another life, beyond all that you asked or wished for in this.'"

Mrs. Reynolds lived some years after the return of her boy, as she generally called him, the happiest of mothers, as he was the most dutiful and affectionate of sons. Man is far slower to forgive than "He who is the top of judgment," and who has the greatest right to resent the breach of an offended law, and still longer before he can cancel the memory of transgression from his mind; but even man in time receives the penitent, and accords to a fellow-sinner the forgetfulness that he would claim for the sin that disgraces himself. Reynolds gradually won by his exemplary conduct, the goodwill and esteem of all. He married a respectable young woman, who proved a daughter, in the truest sense of the word, to his aged parent.

"I will try to walk in your steps, mother," said she, the day she became a wife; and she faithfully performed her promise. She early taught her children to pray, and she never omitted to pray with them. And she was right. Greatly in a case like this does example exceed precept. Mrs. Reynolds reached a very venerable age, happy amidst her offspring, and useful to the last. "She did not know," she would often say, "when she

could be spared to die," and all about her thought the same. Death, however, did not find her unprepared, and when at length she resigned her breath, she was regretted with the truest affection; and her words, her advice, and her example were held sacred both by her relatives and the neighbourhood in general.

TWO ENDS TO A TELESCOPE.

THE game on a gentleman's estate was much destroyed by a wild cat. Rabbits and hares, partridges and pheasants, were carried off to its den. The snares and vigilance of the gamekeeper were in vain exercised; the cat escaped the former and eluded the latter. One day Puss, ranging for food, found on the ground a small telescope: she was puzzled at first to find what it was, and what was its use. At length, to her astonishment, she discovered she could see through it, and to her great joy observed a rabbit quietly eating the sprouts of a cabbage, and so near to her that a few springs would place an excellent dinner in the power of Puss. Jumping round she looked through the other end: in the far distance she observed the keeper loading his gun and approaching to her; but so far off did he appear to be, that Puss cried out, "Well, if he can see me, he will be at least half an hour before he can reach this place; in the meantime I will catch the rabbit, and shall go home and eat it." Stealthily crawling to the spot, where she imagined the rabbit to be, she was about to make the fatal spring, when a bullet from the keeper's gun put an end to her intention with her life.

Many men look as Puss did through the wrong end of the telescope. Designing adventurers entice the unwary, by bright schemes, to risk their all, in mines, railway projects, and wonderful discoveries; success like the rabbit seems not only in view but within their grasp, while, in fact, loss, it may be ruin, is near at hand.

CHEER UP.

NEVER go gloomily, man, with a mind,
 Hope is a better companion than fear;
 Providence ever benignant and kind,
 Gives with a smile what you take with a tear.

All will be right,
 Look to the light,
 Morning was ever the daughter of night;
 All that was black will be all that is bright,
 Cheerily, cheerily, then cheer up.

Many a foe is a friend in disguise,
 Many a trouble a blessing most true,
 Helping the heart to be happy and wise,
 With love ever precious and joys ever new.

Stand in the van,
 Strive like a man—
 That is the bravest and cleverest plan;
 Trusting in God while you do all you can,
 Cheerily, cheerily, then cheer up.

M. F. TUPPER.

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GALILEO GALILEI, OR THE ASTRONOMER OF PADUA



PADUA.

IN one of the large and dimly-lighted apartments of the university of Padua there sat one summer's evening, in the year 1597, a young man in the prime of life, intently engaged in reading. Time passed on, and still he sat there undisturbed, and forgetful of the world without. At length, laying down the book he had been perusing, he leaned his head on his hand for some minutes, apparently lost in thought. His fine open brow and intelligent eye were clear indications of a mind of no common order ;

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and few could look at him without being convinced that he was not hiding in a napkin, or burying in slothfulness, the talents with which God had endowed him. No; he was a diligent searcher after truth and knowledge; and destined to be nobly rewarded! In a few minutes, turning to a desk which stood near him, the student exclaimed, while a smile of joy passed over his countenance, "Yes; I will write to him! He is a man after my own heart; a bold and daring genius!" He took up the pen and wrote a letter, from which the following is an extract. It was addressed to the celebrated German astronomer Kepler, and proved to be the commencement of a friendship between two of the greatest men of the 16th century:—

"I have as yet read nothing beyond the preface of your book, from which, however, I catch a glimpse of your meaning, and feel great joy on meeting with so powerful an associate in the pursuit of truth, and consequently such a friend to truth itself: for it is deplorable there should be so few who care about it. I promise to peruse your book dispassionately, and with a conviction that I shall find in it much to admire. This I shall do the more willingly, because many years ago I became a convert to the opinions of Copernicus,* and by that theory have succeeded in explaining many phenomena which otherwise are inexplicable. I have arranged many arguments and confutations of the opposite opinions, which, however, I have not yet dared to publish, fearing the fate of our master Copernicus, who, although he has gained immortal fame amongst a few, yet by an infinite number is exploded and derided. Were there many such as you, I would venture to publish my speculations, but since that is not so, I shall take time to consider of it."

Having concluded and sealed the letter, he rose and walked out in the green meadows adjoining the university.

"Who is this coming with a book in his hand?" asked the young Beatrice Novelli of her father, as they stood together admiring the gorgeous splendour of an Italian sunset; "I should take him for a philosopher, were it not that he smiles occasionally."

"He is professor of mathematics in our university," replied her father; "and a very clever man. I am slightly acquainted with him.—"Good evening, Signor, I see you do not leave your studies behind you, even when you come out to enjoy such an evening as this. You prefer the writings of man to the open book of nature."

"Nay," said the professor, with a smile, "judge me not so harshly, Signor Novelli; few can admire the glorious works of nature more than I do. On such an evening as this, with my favourite companion to enhance my enjoyment, I am almost in danger of forgetting there is such a place as the university of Padua."

"Ah! the Orlando Furioso; you are an admirer then of the poet Ariosto?"

"I prefer him to all poets, ancient or modern; in proof of which I have this enchanting poem nearly by heart."

"Pardon me for differing from you, Signor," said Novelli, "but in my opinion he is not to be compared to Tasso. What can be finer than his poem of 'Jerusalem Delivered?' What can speak more in his praise than the unbounded celebrity he enjoyed, and his being crowned in the Capitol at Rome as 'the prince of poets?'"

"Poor Torquato Tasso!" replied the professor, "he was highly sensitive

* Copernicus was a celebrated Prussian astronomer, who established the true system of the universe in opposition to that of Ptolemy.

and of a most fervid imagination, but I fear his mind was at times a little disordered."

"The cruel treatment he received was enough to make it so," replied Novelli. "Could anything have been more painful for a man of his temperament than to be shut up in a dark and solitary prison? How often must his thoughts have reverted to the bright sky and the blue sea of his native Sorrento! how must he have pined in his lonesome dungeon, for the vineyards and orange groves, the sunny slopes and dells of that lovely spot! and above all, with what a longing heart must he have desired once more to behold his affectionate and gentle sister! Poor Torquato Tasso!"

"Who imprisoned him, papa?" asked Beatrice.

"The Duke Alphonso D'Este, my love. Tasso presumed to admire at a distance the Duke's fair sister, the Princess Eleanora, and for this crime he was nine years confined in Ferrara."

"The duke, I believe, thought him insane," observed the professor. "If you remember, when staying once at the castle, Tasso threw a knife at one of the servants, on account of some trifling negligence, which act of violence greatly alarmed his noble hosts, and he was confined as one that had lost his reason."

"Ah! they merely wanted a pretext for his imprisonment, said Novelli; "I am aware he was excitable. But he rests in his grave; his earthly sorrows are all over."

"Did he die in prison, papa?"

"No; he was released from his prison, and died two years since at a monastery near Rome."

"And which of our poets does your little girl admire?" said the professor, turning to Beatrice; "is it the sweet and melancholy Petrarch, or the immortal Dante? You ought to know something of our great poet Dante, Beatrice, for the lady to whom he addressed most of his sonnets bore your name."

"If you will kindly tell me of him, Signor, I will try not to forget him," said Beatrice, modestly.

"Dante was a Florentine, my little girl, and lived about three hundred years ago. Exiled from Florence, he for some time took up his abode in Padua."

"And Petrarch, Signor?"

"Petrarch flourished about two hundred years since. He also lived in our city, and afterwards retired to a villa at Arquà, a sweet spot amongst the Euganean hills. You must ask your father to take you to see it; it is only a pleasant drive from the city."

"Yes, that I will," said Beatrice; "I shall remember about him better if I see his house."

"Then you must remember about Ariosto, Tasso, and Dante, as well as Petrarch, for all once lived and studied in Padua, and you may see their dwellings any day. An illustrious band, Beatrice! whose names and works will never perish from Italy, as long as Italy is a land of poetry!"

"I am afraid I shall never like study," said Beatrice, with a sigh.

"But," said the professor, smiling, "though you do not like study you like a story, I have no doubt, Beatrice. Come, while we sit down on this mossy bank I will tell you an anecdote of my favourite Ariosto."

"The poet who wrote that book? oh! thank you, Signor; I like a story."

"The poet Ariosto was like you," he continued, "partial to flowers, and fond of gardening; so fond, that he used to take up the seeds he had sown, in his impatience to see how they were getting on! One morning, after having been busy with his flowers, in a fit of abstraction he wandered from home attired in his dressing gown and slippers. When at a considerable distance from any habitation, he suddenly found himself made prisoner by a troop of banditti, who were proceeding to use violence towards him, when one of the lawless band, drawing his chief aside, whispered in his ear, 'It is the poet Ariosto!'. The captain of the brigands immediately approaching Ariosto, saluted him in the most respectful terms, apologized for not knowing him, and concluded by saying, 'Be assured, Signor, the renowned author of the Orlando Furioso has nothing to fear from us; we beg as a favour, that we may be permitted to escort you in safety to your home.' They did so; and the brigand chief expatiated all the way to the castle on various fine passages in the poem, with which many of the men appeared to be intimately acquainted, and with their leader joined in loading the author with praise. Another time, having occasion to pass through a wood with a few attendants, they encountered a band of armed brigands, who, to their surprise, suffered them to proceed without molestation. The captain, however, asked one of the servants the name of his master, which he had no sooner heard, than he set spurs to his horse, and galloped after Ariosto, who stopped in some alarm. Approaching him with every demonstration of profound respect, the brigand chief offered his humble apologies, for having, through ignorance of his name, suffered him to pass his troop without paying him the homage so justly due to his merit."

"Then his being such a famous poet saved his life, very probably," said Beatrice. "His poetry was worth something to him then. Was Ariosto an amiable man, Signor?"

"He was most amiable. When in his twenty-first year, he had the misfortune to lose his father, and found a large family left on his hands in narrow circumstances. He was at first quite dismayed at such a charge, but setting manfully to work for them, his efforts were rewarded with success. An affectionate son to his widowed mother, this young man supplied the place of an anxious and careful father to brothers and sisters who almost idolized him."

"That was very kind and good," said Beatrice; "it seems to me a poet is not the man to have anxious cares about providing for a family."

"Very true, Beatrice, they are not in general fitted for it. But though of a mild temper, Ariosto could be roused into warmth. There is a laughable anecdote told of his passing one day by a potter's shop, and hearing the owner recite some of his verses in a style of which he did not at all approve. Enraged, he burst into the shop, and broke vase after vase in his fury. When the potter expostulated, Ariosto replied with much complacency, 'Destroying your worthless vessels is far too mild a punishment for the shameful way in which you destroyed my beautiful verses!'"

"Are you then going to study, Signor?" asked Beatrice, fixing her large eyes with a kind of awe on one who spent so much time amongst his books.

"I am going into my observatory," replied the professor, smiling at the expression of her countenance. "Look up there, little girl, at those myriads of glittering stars studding the blue expanse! I am going to try and learn something about them."

"But they are millions and millions of miles away, Signor!"

"True; but they are not quite beyond our reach, Beatrice. The immortal mind can soar as high as the stars. Good night! adieu, Novelli."

Beatrice thought for a few minutes of what the professor had said, and then turning to her father asked, "Is he an astronomer as well as a mathematician?"

"He is, Beatrice, and spends many hours in his observatory whilst you are asleep."

"Do you think he will find out anything concerning the beautiful stars?"

"Very likely he may; he is extremely clever, and most industrious and persevering. From observing the vibrations of a lamp swinging from the roof of the cathedral whilst he was studying at Pisa, was suggested to him the laws which regulate the movement of a pendulum; and to him we also owe the reinvention of the thermometer. He has tried many experiments to ascertain the laws of motion; amongst others, from the leaning tower of Pisa, in the presence of the university and a crowd of people, he dropped at the same moment two bodies of very different weights to disprove the notion that heavy things fall to the ground more quickly than light ones."

"Why so they do, surely."

"So we thought, and so the Pisans persisted in thinking and maintaining, with the sound of the simultaneously falling weights still ringing in their ears. The professor has proved, however, that with the exception of an inconsiderable difference, which he attributes to the resistance of the air, a weight of one pound will reach the ground in the same time as a weight of ten pounds of the same material."

"How clever he must be! I thought he looked like a philosopher. What is his name?"

"Galileo Galilei. You well may call him clever, Beatrice; he is not only a philosopher, an astronomer, and a mathematician, but a skilful mechanic also. He draws beautifully, is passionately fond of painting, and is an excellent performer on several instruments of music."

"And yet with all this knowledge, he was so goodnatured as to sit down and tell me a story! I like Signor Galileo."

"There is one thing I do not understand in him, however," said Novelli. "He told me the other day, in confidence, that it was his private opinion the sun did not go round the earth."

"Not go round the earth!" exclaimed Beatrice in surprise; "why where does he think it goes to, papa?"

"He is inclined to believe that the earth goes round the sun."

"Oh! that would be impossible!" said the little girl, in still greater astonishment than before: "can the Signor really suppose the earth moves? what a strange idea! how frightened I should be if I thought it was true! Why, papa, he saw the sun go down to-night, and he knows it will rise again to-morrow on the other side of the world. Oh! Signor Galileo is not so clever as I thought he was."

"Philosophers take strange notions into their heads sometimes, my child; but the professor is a clever man for all that. Come, we will return home."

In those days people supposed the earth to be immoveably fixed in the centre of the universe, with the sun, moon, and planets revolving round it once in every twenty-four hours. Copernicus showed that this theory was a false one; it remained for Galileo to prove it. The difficulties he had to encounter in doing so were continual and almost overwhelming, yet every step of his course was a triumph. The penetrating acuteness of his inven-

tion, and the unswerving accuracy of his judgment, must cause our wonder and admiration ; while the persevering energy and patience with which he combated the host of obstacles in his path, must win our esteem and respect.

He was born on the very day and hour that Michael Angelo died, and like that great man, persevered till he triumphed.

The fame of Galileo increased. Twice was he re-elected to the professorship, his salary being raised each time. Persons of the highest rank attended his lectures, and such was the number of his auditors, that on many occasions he was compelled to adjourn to the open air, the lecture-room not being large enough to contain the crowds of people.

Suddenly a new star appeared in the heavens ; and the Paduans, both learned and unlearned, flocked in numbers to the astronomer's lecture-room, to hear from him some explanation of the prodigy. The first thing he did was to reproach his auditors with their general insensibility to the magnificent wonders of creation, daily and hourly exposed to their view, in no respect less admirable than the new star about which they were so interested. He then showed that this splendid phenomenon could not be, as some supposed, a mere meteor, but that it must be situated amongst the remote heavenly bodies. This was quite inconceivable to those whose notions of an unchangeable sky were quite at variance with the introduction of any such new body ; and we may consider this lecture as the first public declaration of Galileo's hostility to the old and erroneous astronomy.

In the time of which I am speaking, people knew very little about the heavenly bodies, those magnificent and glorious creations, the contemplation of which must fill every thinking mind with the most profound admiration and wonder. No telescope had ever then been turned towards the heavens ; and it required a courageous mind to contradict, and a strong one to bear down, a party so prejudiced against all new discoveries, that they refused to credit even their own senses. But the illustrious Galileo persevered in his laborious and indefatigable observations, and undismayed by the persecutions to which he was subjected, continued to announce his new discoveries. At length to his great joy he discovered the telescope, and was enabled to construct one. How often had he gazed at the luminous orbs above him, and longed to find out more concerning them, and the laws by which they are guided !

And now he could do so. Oh ! who can imagine the thrilling joy the astronomer felt, when he first directed his telescope to the starry firmament, and by its aid discovered worlds till then unseen ! then, overwhelmed with the grandeur and magnificence of the system he explored, he must have acknowledged with the Psalmist how truly "The heavens declare the glory of God !"—then, as he turned his glass night after night, and fresh discoveries and new glories gradually burst upon his gaze, revealing laws and systems before unknown, he must have exclaimed with adoring reverence, "Great and marvellous are Thy works, Lord God Almighty !"

But the people of Padua did not at all approve of Galileo's discovery, and some of them even said it was a wicked invention. The principal professor in the university actually refused to look through the telescope ! They argued that the planetary bodies which the astronomer saw through it could not exist ; they called him an impostor and a heretic, and heaped abuse and scorn upon him. He seldom condescended to notice their invectives, otherwise than by good-humoured retorts, and by prosecuting his observations with renewed assiduity and zeal.

ANCIENT LONDON—ILLUSTRATED BY ITS EXISTING MONUMENTS
AND ARCHITECTURAL REMAINS.—No. II.

WE learn from Cæsar, that when he had succeeded in routing the confederate British forces who set themselves in opposition to his progress through Kent, and had nearly reached the capital of their leader, Cassivellaunus, or Caswallen, the Trinobantes (a powerful state occupying the present counties of Essex and Middlesex) sent ambassadors to solicit his aid in the restoration of their hereditary prince, Mandubrace, who was then in the Roman camp, having previously taken refuge under the protection of Cæsar, in Gaul, in order to evade the vengeance of Cassivellaunus, by whom his father, Immanuentius,* had suffered defeat and death. To this end, and in consideration of the further protection of the Romans against the malice of their dangerous neighbour, the ambassadors gave hostages, and supplied the Roman army with corn, in compliance with Cæsar's demand; moreover, they promised submission in the name of all the Trinobantes. Cæsar, having reduced the capital, or stronghold, of Cassivellaunus, made peace with him on easy terms, and quitted Britain, leaving a charge in behoof of Mandubrace and his subjects, whom he enjoined Cassivellaunus to respect, as being under his protection. In this transaction there may be observed some evidence of civil policy on the part of the Trinobantes, in thus taking means to fortify themselves by voluntary alliance with so powerful an arbitrator as Cæsar; and if inferior in warfare to the states under Cassivellaunus, their thrift is shown in their ability to provision the Roman army; and their prudence, in thus providing for the protection of their wealth and the commerce they are presumed to have established with the opposite States on the Continent. During the subsequent period of nearly a century, the civil wars and opposition of party interests are assigned by Tacitus as a sufficient source of oblivion on the part of the Romans with regard to the furtherance of Cæsar's invasion; and he states that during the two first reigns of the Empire it was considered the better policy not to interfere with Britain. But it appears evident from the same authority that the maritime parts of Britain had become mixed with, if not chiefly occupied by, the people from the opposite points of the Continent; and the civilising influence of the Romans probably extended itself to the British through those nations. On the southern coast, the Belgic Gauls are presumed to have been the medium of that indirect kind of intercourse; and this Teutonic stock may have become so far incorporated with the Celtic race as to have supplied the active principle to the trading community of British London.

At the time when Tacitus became acquainted with Britain, that nation appears to have fallen into a state of transition, and he especially instances the decline of its government. "Heretofore," he says, "they (the Britons) were governed by kings, but now they are drawn by petty principalities into factious and party divisions;" to which absence of union he ascribes the comparative facility with which their states were severally brought under a foreign yoke. But although declined in point of nationality, some tokens, apparently due to an earlier state of civilization, remained; and others, of western origin, indicative of the wide-spread influence of the Romans, were evidently in the ascendant. The art of compounding metals† is presumed to have been introduced by the Phœnicians,

* Called Lud, or brown.

† The discovery, in 1736, on Easterly Moor, near York, of one hundred

perhaps together with the manufacture of pottery, the art of dyeing,* and the use of ring money, mentioned by Cæsar, specimens of which, in gold, silver, and bronze, with others, consisting of thin plates of metal, have been found in various parts of the country. That a coinage after the Roman model had come into use between the period of Cæsar's invasion and the subsequent Roman occupation of the country under the Emperor Claudius, appears by the evidence of coins bearing the names of British kings—one of whom, Cunobelinus, is understood to have reigned in the time of the Emperor Augustus—and by the word *tascia*, or *tasacio*, representing the Latin *taxatio*, according to Camden's suggestion, inscribed on some of them. These may be presumed to have been coined for the express purpose of furnishing the tribute originally imposed by Julius Cæsar; but afterwards, as appears from Strabo, commuted to the less arbitrary equivalent of duties upon exports and imports. Among the British exports, Strabo enumerates gold, silver, and iron; cattle, skins and fleeces, and dogs; those of Britain, we are told, being in especial request.† Slaves, presumed to have been captives taken in the course of internal warfare, were likewise conveyed to Rome; corn was likewise sent to Rome in great abundance.‡ The nature of some of the imports—such as ivory bits and bridles, gold chains and wreaths, amber cups, vessels of glass and of the metal called electrum, &c.—indicate the inroad of frivolous tastes, and consequent decline of primitive independence, ascribed by Tacitus to the southern Britons, whom he compares with the Gauls of the opposite coast. "The nearest to France," he says, "likewise resemble the French, either because they retain traces of the race from which they descended, or that in countries butting together, the same aspects of the heavens do yield the same complexions of bodies. But generally it is most likely the French, being nearest, did people the land. In their ceremonies and superstitious persuasions there is to be seen an apparent conformity; the language differeth not much; like boldness to challenge, and to set into dangers when dangers are come; like fear in refusing, saving the Britons make show of more courage, as being not mollified yet by long peace, for the French also were once, as we read, redoubted in war, till such time as, giving themselves over to peace and idleness, cowardice crept in, and shipwreck was made both of manhood and liberty together; and so it is also befallen to those of the Britons which were subdued of old, the rest remain such as the French were before."§ This is a Roman view of peace as a mere state of inactivity without the compensation of moral reaction, which requires independence for its development. When Tacitus wrote, Britain, like Gaul,

axe-heads, with lumps of metal, and a quantity of cinders—indicative of the art of casting in bronze—is described in Borlase's 'Cornwall.' The alloy of the British bronze was found by analysis to be one part of tin to six of copper, in a spear-head; in an axe-head, one of tin and ten of copper; in a knife, one of tin to seven and a half of copper.—'Philosophical Transactions,' 1796, p. 395.

* The plant called Woad—supposed to have supplied the material for dyeing the skin as well as the garments they wore—is convertible by different processes into blue, green, and black; the latter was the colour worn by the priestesses.—'Britannia after the Romans.'

† Strabo mentions their use in war by the Gauls. They were also preferred by the Romans for the chase and the amphitheatre. Camden quotes several of the Latin poets who celebrated the British mastiff in their verses.

‡ In the middle of the fourth century a fleet of eight hundred vessels conveyed corn from Britain.

§ Greenway's Translation, 1598.

had fallen into subjection; but previous to this its people had, no doubt, directly and indirectly, come to be acquainted with the Romans and their usages. The levying and adjustment of the dues imposed upon the articles shipped or landed in Britain must have required the presence of Roman officers, and the requirements of a mutual interest in traffic, with other motives, would induce considerable intercourse; besides which, the Roman states appear to have become the asylum of banished or disaffected Britons, among whom we are told of one of their princes, Adminius, who took refuge under Caius Cæsar when exiled by his father, Cynobellinus. Indeed it is asserted by Strabo that through these means of intercourse Britain had become familiarly known to the Romans, and we naturally conclude the acquaintance was mutual. Thus it may be inferred that a social conquest had, in a measure, taken place; and the mingled features of the famed Augustan era may be conceived to have extended themselves into Britain before its general subjugation by Roman arms—a transition not unlike that by which England, a thousand years later, had become partially revolutionised by foreign intercourse sometime prior to the Norman invasion. The second invasion of Britain by the Emperor Claudius, in the ninety-seventh year after that of Julius Cæsar, is said by Dion Cassius to have been precipitated by one of the refugees above alluded to, called Bericus, in consequence of whose evasion, and the refusal of the Romans to give him up to the ambassadors sent to demand him, the Britons refused all intercourse with Rome. Furnished with this pretext, Claudius, in the second year of his reign, sent an army consisting of four legions, with cavalry and auxiliaries, in all fifty thousand strong, under the command of the prætor, Aulus Plautius, for the reduction of Britain. From policy or want of preparation to resist this powerful force, on the part of the Britons, the Romans were allowed to land without opposition, and the prætor received the submission of certain of the states, divided as they were by native discord, but was opposed by a force, composed chiefly of the Trinobantes, under Caractacus and Togidumnus, sons of Cunobelin, the deceased king of the Trinobantes. Those princes were defeated in two battles, and the Britons retreated to a position in a marsh on the Essex border of the Thames, where they made a desperate stand, and, enraged by the fall of Togidumnus, repulsed the Romans with such fury that Aulus Plautius found it expedient to withdraw his troops to the opposite bank of the river, where he awaited the arrival of Clandius, who, to appearance, may have bespoken the final honours of conquest. Among the reinforcements brought by Claudius were a number of elephants; and, as this is the only instance in which we are informed of those formidable auxiliaries being brought hither for warlike purposes, the following discovery may perhaps be conceived to have revealed a surviving relic of this pompous equipment:—"Sometime before the year 1714," says Bagford, in a letter to Hearne, "Mr. John Conyers, an apothecary in Fleet Street, who made it his chief business to collect antiquities, which about that time were daily found in and about London (!), as he was digging in a field near the Fleet, not far from Battle Bridge, discovered the body of an elephant, conjectured to have been killed there by the Britons in fight with the Romans, for, not far from the spot, was found an ancient British spear, the head of flint fastened into a shaft of good length. From this elephant the public-house near the spot where it was discovered, called the Elephant and Castle, derives its sign."^a

* Hone's 'Table Book.'

Claudius crossed the Thames with his forces and routed the Britons. Disarming the contumacious tribes, he made terms with others, and founded the colony of Camalodunum as the nucleus of his British tenure, and returned to Rome to grace a superb triumph decreed in honour of an achievement whereby, says Seneca, he "might make his boast that he first vanquished the Britons, for Julius Cæsar did but show them to the Romans." The reduction of Britain, as regards its first steps, can only be vaguely traced in the abridgment of Xiphilinus, by which that part of Dion Cassius's history is handed down, especially in point of topography; but it may be gathered that Aulus Plautius passed through Kent and Surrey, crossed the Thames, as Julius Cæsar had done, but without hindrance, it would appear, from the Catuellani, who, under Cassivellaunus, were prominent in their resistance to the former invasion, and made his way through the country of the Dobuni of Gloucestershire—people subject to the Catuellani as far as the Severn. Thence he followed the British host back to the Thames, without coming nearer to London than Maldon—then the seat of the Trinobantine kings. In the course of this and the subsequent war, under the successor of Aulus Plautius, the contest is presumed to have been chiefly maintained by the intruders or colonists from Belgic Gaul, who, it appears, stood equally opposed to their Celtic neighbours, and although, under those circumstances, willing to avail themselves of Roman protection, were by no means disposed to purchase such aid at the cost of their independence.

The advantages gained by Aulus Plautius in Britain were chiefly obliterated in the state of anarchy which preceded the arrival of his successor, P. Ostorius Scapula; about the year 50 of the Christian era; and the latter, in order to restore and establish the shaken tenure of Roman sway, proceeded, among other measures, to plant a line of military stations from the Severn to the Nene, including all the southern and south-eastern parts of the island. Among the tribes thus circumscribed were the Iceni, inhabiting the districts of Norfolk and Suffolk, who had remained unsubdued, but had voluntarily allied themselves with the Romans. Seeing the jeopardy in which their independence would be placed by such means, they, and the neighbouring tribes at their instigation, chose a position, which they fortified with earthen ramparts, but they were defeated after an obstinate resistance; after which the Cangi, supposed to have inhabited Cheshire, the Brigantes of Yorkshire and the adjoining counties of Durham and Lancashire, were brought under subjection. The Silures, inhabitants of South Wales, led by Caractacus—whose subsequent heroic deportment when brought a captive to Rome has furnished a theme for the sister arts of poetry, history, painting, and sculpture, were likewise conquered, but only after a desperate resistance. The spirit of the Silures, however, was not broken, but rather aggravated by defeat and the capture of their commander, who was betrayed by Cartismandua, Queen of the Brigantes; and their perseverance in a series of aggressions, by which the measures of Ostorius were thwarted, are supposed to have terminated his life, worn with toil and vexation. The death of Ostorius was shortly succeeded by that of Claudius; and in the reign of Nero, his successor, Suetonius Paulinus, who had been preceded in the interim by Didius Aricus and Veranius, succeeded to the government in Britain. The first object of Suetonius was to reduce the island of Mona (Anglesey), the chief stronghold of Druidism. While engaged in this expedition the Roman general was apprised of a revolt of the Trinobantes, in league with the

Iceni, the wrongs of whose widowed queen, Boadicea,* sufficed to consummate their indignation, urged by the insolence and extortion of military government. Prasutagus, the deceased king of the Iceni, had conceived the expedient of securing to his family a portion of his wealth—said to have been greater than that of the other British princes—by naming the Emperor as his heir conjointly with his two daughters; but this attempt to secure the patronage of Nero was frustrated by the rapacity of Catus, his procurator, who made booty of his wealth and goods, and caused Boadicea, the widow of Prasutagus, to be ignominiously scourged, her daughters to be violated, and the relations of the deceased prince to be reduced to the condition of slavery. In addition to these grievances, the obnoxious enterprise upon which Suetonius was then bound; the humiliation of the Druids, and destruction of their groves; the desecration of their sacred island—the sea-girt temple of superstitious awe and veneration, and sanctuary of their leaders, which they had supposed inviolable and guarded by supernatural agency—were measures calculated to awaken the keenest emotions in the sanguine and passionate structure of the Celtic character, and to aggravate with insult the sense of oppression under the encroachment of a power which encompassed them with a grasp deadly to all the interests for the preservation whereof they had formerly succumbed to Roman guardianship. The monstrous wrongs of Boadicea roused the brooding Andate, whose altars were athirst for the sanguinary oblations of vengeance. The disinherited queen, qualified by the dignity of her rank, and above all by her unparalleled injuries, took the command of the revolted states, who were encouraged by the absence of Suetonius to strike a blow as sudden as it proved terrible. The cherished omens of their superstitious creed likewise served to inflame the zeal of the Britons. The statue of the Roman Victory fell unaccountably from its pedestal, and lay prostrate on its face. Infuriated women, with their songs, denounced the impending destruction. Strange noises were heard in the public places, hideous howlings in the theatre, a spectral figure seen in the arm of the sea, the ocean itself bloody, and the apparition of corpses, strewing the shore at ebb tide, were portents, we are told, which preceded a revolt that threatened the total extinction of Roman power in Britain.† The newly-founded colony of Camalodunum was the first object of Boadicea's vengeance. The base procurator, Catus Derianus, fled into Gaul, leaving for the defence of the colony only two hundred men. The place fell readily under the swoop of the Britons. The town, we are told by Tacitus, was wholly unfortified, but among other public edifices there was a temple erected in honour of Claudius, the walls of which were the only refuge of the Roman soldiers for two days, while the remainder of the town was reduced to ashes; after which it was forced, and they succumbed to the fury of the assailants. The confederate Iceni and Trinobantes proceeded to the destruction of London and Verulam, avoiding, says Tacitus, the fortified posts of the Romans; whence it is concluded that those towns were at the time likewise without the defence of walls. The first positive information of London is from Tacitus, as before stated; and his testimony to its wealth and renown as the resort of merchants, and likewise the record of its destruction, are contained in one brief paragraph. Suetonius rapidly crossed the country on the report of the insurrection of the Britons; but finding London

* Various rendered—Boodicea, Boudicia, Voadicia, and Bonduica; the latter probably nearest the British form of the name.

† Tacitus.

untenable, whether from its want of defences, or the insufficiency of his army to maintain the place, cannot be determined. Tacitus says, "He stood doubtful whether or not to choose it for the seat of war; and considering the small number of soldiers that he had, and by good proofs thought Petilius* paid for his rashness, he determined with the damage of one town to save all the rest whole." And although entreated with tears and supplications by the inhabitants for protection, he could only extend it so far as to receive such as would accompany him as part of his army. The residue—aged people, women and children, and such as lingered on account of "the pleasantness of the place"—fell a prey to the determined fury of a war of retaliation, being put to the sword without distinction of age or sex, or more ruthlessly subjected to hanging, burning, crucifying, and other horrible modes of death.† Seventy thousand Roman citizens and confederates, we are told—the former signifying the inhabitants of Verulam, and the latter those of London—were slain and sacrificed with horrible festivities to Andate, the British goddess of victory.

Whether London was burned on this occasion is not stated, although from the precedent in the instance of Camalodunum it is probable, and a presumed corroboration of such a catastrophe is described in a note by Sir John Henniker in the *Archæologia* in relation to discoveries which occurred in the course of an extensive excavation in Lombard-street in 1786. "The soil," we are informed, "is almost uniformly divided into four strata: the uppermost, thirteen feet six inches thick, of factitious earth; the second, two feet thick, of brick, apparently the ruins of buildings; the third, three inches thick, of wood ashes, apparently the remains of a town built of wood and destroyed by fire; the fourth, of Roman pavement, common and tessellated."‡ Vestiges of some great conflagration at the Roman period, as indicated by the intermixture of scorched Samian ware, fused glass, &c., have appeared in other parts of the city. After this carnage, Suetonius, who appears to have obtained reinforcements, resolved without delay to give battle to the Britons. With this view he chose "a place with a narrow entrance, like a gullet, and enclosed behind with a wood, being well assured that he had no enemies but in front, and that the plain lay open without fear of ambush." The position thus described is supposed to be a spot situated in an inflexion on the western side of the elevated ground of Islington and Barnsbury, now built upon, but in the author's recollection retaining its original appearance, and agreeing with the description of Tacitus, minus the wood, that feature having long ago succumbed to the dwellings and gardens of merry Islington.

The following communication to the 'Gentleman's Magazine,' descriptive of a vestige, whereof the annexed woodcut is a



* The Britons encountered Petilius Cerealis, lieutenant of the ninth legion, after they had sacked Camalodunum, and cut off his foot soldiers, he and the cavalry escaping to a fortified camp.

† The practice of selling prisoners of war into slavery is a usage mentioned by Tacitus as apparently familiar, but not resorted to in this instance, where no quarter was given.

‡ 'Archæologia,' vol. viii. p. 132.

copy, likewise describes very accurately the particulars of the above situation, near which it was found:—

“MR. URBAN,—I send you a sketch of a fragment of stone I discovered a few days ago, among others, placed in front of one of the gardens belonging to a row of cottages erected within these few years in a field on the eastern side of Maiden-lane, Battle Bridge. The tenant of the cottage informed me that it was there when he took possession three years ago, and that it was doubtless placed there with other rubbish for the purpose of keeping the entrance to the garden dry, but knew nothing more about it.

“To such of your readers as may not be familiar with this neighbourhood I may be allowed to premise, that until within these seven or eight years there existed, a little to the westward of Barnsbury Park, the remains of an encampment (known by the name of the Reed Moat Field), surrounded by a moat of upwards of twenty feet in width, and about twelve feet deep, with an extensive embankment, or breastwork, thrown up on the western side. This embankment, and a portion of the moat on that side, yet remain. I need not remind the lovers of the little suburban scenery left us by the brick-and mortar encroachments of late years of the once picturesque appearance of this spot; its elevated position; the extensive and beautiful prospect northward and westward, combined to render it, in my opinion, the most charming retreat within the same distance from the city. But its beauties have now nearly all departed. A large mansion and garden, flanked on the west by a lofty and singularly rude and unsightly wall, now occupy the site which tradition, for ages past, had assigned to the Roman legions of Suetonius Paulinus, who is supposed, on good evidence, to have chosen this place for his *prætorium*. The memorable and sanguinary engagement between this general and Boadicea is supposed to have taken place in the vicinity, and to have given rise to the appellation of Battle Bridge.

“Various antiquities have, from time to time, been discovered in this field. A correspondent in Hone’s ‘Every Day Book,’ vol. ii. p. 1566, who signs T. A., states, that ‘in the course of the year 1825 a labourer, who was occupied in digging in the *prætorium*, turned up a considerable quantity of arrow heads; and shortly afterwards, another labourer, digging a few yards to the south of the same spot for materials to mend a road, uncovered a pavement of red tiles, about sixteen feet square, each tile being about six inches square. They were mostly figured, and some had strange characters upon them. Unfortunately the discoverer had neither taste nor curiosity, and they were consigned to the bottom of a deep road.’ These discoveries are again alluded to (by the same writer), accompanied by an engraving of the place, in the ‘History of London,’ by Thomas Allen, 1826, vol. i., stating also that fragments of stone-ware had been found. The fosse was drained in the year 1826. ‘I understand that Roman coins and pottery were found in excavating the ground for the present building, and are still in the possession of the occupant.’ The field in which the above fragment was found is about one hundred and fifty or two hundred yards from the spot, on the western side of the road, leading to the Caledonian Asylum. It is of a very hard limestone, about five or six inches thick, and twelve in width. The general style and character of the inscription, of which the above is a faithful copy, are such as to lead me (and others more versed in such matters) to the conclusion that it is a relic of the Roman age, and refers to the memorable battle before mentioned. The

inscription would seem to be commemorative of an officer of the twentieth legion. On reference to Tacitus (book xiv.) it will be found that the legions mentioned as taking part in the engagement were the fourteenth and twentieth—'Jani Suetonio quartadecima legio cum vexillariis viceasimariis et e proximis auxiliares decem ferme milia armatorum erant.' And again, towards the conclusion of his very graphic narrative, when alluding to the remorse and suicide of Poenius Posthumus, præfect of the camps of the 2nd Legion, he says—'Cognitis quarta decimanorum, *vicesimanorum* *que* prosperis rebus, quia pari gloria legionem suam fraudaverat, abnueratque contra ritum militiæ jussa ducis, se ipsum gladio transegit.'

"Perhaps some of your readers may be enabled to furnish an additional clue to the inscription, and such of them who may feel inclined to investigate the pretensions of the 'Prætorium' will find the subject* treated at considerable length, and with much ability and research, in Nelson's 'History of Islington,' 1823, 2nd Edit.

"Yours, &c., E. B. PRICE."

The advance of the British host, reeking with carnage and loaded with the spoil of the Roman towns, was wild and disorderly, "leaping forth all abroad, by troops and companies, an incredible multitude, the confusion of the immense concourse being enhanced by the presence of their wives and children, whom they disposed in cars, or tumbrils, in the rear, in order that they might witness the anticipated victory. Boadicea, whose presence as leader of the host does not appear to have been foreign to the custom of the Britons, went from tribe to tribe in a chariot, her outraged daughters placed behind her,† haranguing the troops, according to the British custom. In her address, she recited the bitter wrongs of herself, her children, and family, and held up the insolent and indiscriminate concupiscence of the Romans. Disclaiming all ambitious objects in leading them to battle, she invoked the gods to favour her call for revenge. Reminding her followers of their triumph over the legion they had encountered in open field, after the destruction of Camalodunum; and as the Roman legions had not yet appeared, she declared they had hidden themselves in terror of the outcry of their multitudinous hosts, or betaken themselves to flight, as incompetent to face the strength and fury of the onslaught and close-handed fight of the Britons. For her own part, she said, she, a woman, was resolved on victory or death; they who were men, might, if they willed it, live and serve in slavery. The Roman general, on his part, entreated his legions,‡ who had lately confronted at Mona the threatening cries and imprecations of the British warriors and the women who took part in their array, to despise their clamour, and pointed out to them that more women were to be seen opposed to them than strong young men. He likewise reminded the troops of the advantage they possessed in discipline and arms; and of the glory they would gain by the defeat of an army so superior in numbers, and exhorted them above all to keep in close rank, first to launch their javelins, then with the pointed basses of their bucklers, and with their swords, to bear down and slaughter the enemy, without staying to take the spoils, for after victory all would fall to their share. At these words the experienced

* On this subject the 'New History of Islington,' by J. Lewis, jun., may also be consulted, pp. 2 et seq.—Edit. Gents. Mag.

† The garb of Boadicea consisted of a plaited tunic of various colours, a girdle (or torque) of gold, round her waist, and a long mantle (the British *sagum*).—Epitome of Xiphilinus.

‡ Amounting to about ten thousand well-disciplined men.

warriors showed such alacrity and readiness, that Suetonius gave the signal of battle. The well-disciplined legion commenced the attack by hurling the javelin, without leaving their entrenchments; and as the British came on, sallied forth, supported by the auxiliaries and the horsemen, who with their long lances, carried down all before them. The Britons, borne back upon each other by the firm assault of the Roman troops, fell into utter confusion, and penned in at the bottom of the valley by their carts, and the cattle they had collected, the battle became a mere effort of slaughter on the part of the Romans. No mercy was shown by the victors to man nor woman, and we are told that even the cattle of the Britons were thrust through, and helped to augment the heap of the slain. Eighty thousand of the British are stated to have fallen, while the Romans lost barely four hundred. "This," says Tacitus, "was a day of great honour and renown, comparable to the victories of old." The place called Battle Bridge, now King's Cross, at the northern end of Gray's Inn Lane, where the fight is traditionally reported to have come to a close, is about a mile from that where the onset took place. Boadicea maintained her resolution not to survive defeat, by poisoning herself.

IT'S OF NO USE.

It is not in a man to direct his steps, nor is it in his power to command success in anything that he undertakes: a blessing from above must attend his endeavours, or the apparently wisest measures must fail, and come to naught. Nevertheless, he that refuses to put forth his best energies in the work which his hand findeth to do, who, meeting with obstacles, gives himself up to despondency, and deserts the post of his allotted duty, renders himself amenable to the Divine displeasure, acts foolishly in a worldly point of view, and defeats the gracious purposes of his being. Disappointment, hindrances, difficulties, and their attendant train of vexations, are generally but trials of our faith and obedience, and are mercifully sent to afford us an opportunity of winning a recompense that shall never perish, a great and everlasting reward in Heaven.

"Ay, that's the way, slam the door as violently as you can, to let us see what a passion you are in, and call so loud that all the neighbourhood may hear you," cried a female, who stood in the middle of a neat room, in which with herself was a respectable-looking elderly woman. The eyes of the speaker were fixed on the door which opened into a baker's shop; as she spoke, vexation was visibly imprinted on her countenance. "But he's gone, and a good thing too—of all the ill-tempered, impatient brutes that ever lived—"

"Oh hush, hush!" said the other female, "pray do not call your husband such a name."

"And don't he deserve it?" returned Mrs. Miles, "Isn't he a brute to put himself into such a temper for nothing?"

"I am not thinking of him, but of you, Martha," said Mrs. Grey, who was her mother; "say as you will, you are wrong, very wrong."

"Mother!" cried she, "it's of no use saying any more to me, I am sick of it altogether. I wish I was at Mr. Nelthorpe's again, and I have wished so a hundred times over, but that's of no use."

"Certainly not," returned Mrs. Grey; "but it would be better to try to amend matters than to be sick of them."

"I have tried," replied she, over and over again, and I tell you it's of no use; we have this pretty scene almost every morning, and as we began the chapter, so we shall go on, and so we shall finish it."

"Who told you so?" asked Mrs. Grey.

"No one," replied she, "my own sense and every day's experience tell me so."

"Place no dependence in either of them," said her mother. "You have not tried properly or not long enough; and I again say to you as I have done for years, if there is an expression more silly than another, it is that you are so fond of using. If every one was to say thus and act accordingly, what would become of us all? Why ruin and misery would stare us all in the face, and comfort and success would be left for nobody. But it is of use. Every endeavour to set matters right, and to improve what's wrong, is, if made discreetly, beneficial; and if nothing more is gained, you have the satisfaction of knowing that you have done your best."

"It's no satisfaction to think my own temper is spoilt," said Martha, "and spoilt, too, for nothing; no one could live more peaceably with my fellow-servants than I always did, but Miles, for two or three hours at least in the morning, is like a hurricane in a band-box, fit to tear everything to pieces."

"Nonsense, nonsense!" said Mrs. Grey. "What do you know about hurricanes? don't talk so foolishly."

"There now!" cried Martha, "you take against me! it's very hard that one's own mother should be the first to blame her child, and to find fault," and throwing herself into a seat, she hid her face and sobbed aloud.

"Martha, Martha!" exclaimed Mrs. Grey, "you make me ashamed of you. God gave tears to a woman, as courage and strength to a man—to be a defence and an ornament; and few can withstand them when they flow on a proper occasion; but when temper or mortified pride calls them forth, they steel the hearts of the looker-on, and make the shedder of them contemptible. Recover yourself, and judging of me by your own feelings as a mother, think whether I show my love most in recalling you to your duty, or in encouraging you to neglect it."

Martha still wept.

"Come, come," resumed she, "get the better of this. Set about dinner; employment is the best thing in the world to drive away troubles: the children will soon be wanting to go to school, and it is a bad thing either to let your husband or the young ones see you have been crying. It will only put Miles in mind of what, perhaps, he has by this time forgotten, whilst it shows the others that there have been words. No matter whom they may think most to blame, it is hurtful to both parents. Children must love and respect father and mother alike, or they stand a good chance of loving neither as they ought."

Martha arose, the necessary arrangements were made, and the dinner, neat and comfortable as it could be placed on the table, was served up; if there was a shade on the features of Miles when he sat down the cheerfulness of the children dissipated it, good humour was restored, and Martha, making up her mind that it was of no use to fret over old troubles, enjoyed herself as much as any one.

True, Martha had some things justly to complain of, but she had many to be grateful for. Miles was a man of fair character, strictly honest, and very industrious. He was kind-hearted too, and in the main a good husband. His temper, however, was irritable, and on busy days, or at busy

hours, he thought it necessary, and a proof of business, like many others who entertain the same foolish notion, to speak impatiently, use violent expressions, "to hurry everybody out of their wits and lives," to use his wife's words, and to show a harshness of manner far beyond what was natural to him, or more even than he really felt. On these occasions Martha but too seldom made any allowance for him. She took in bad part whatever he said, applied all to herself, and persisted in believing, or professing to believe, that sentences which had really little or no meaning in them, were intended as reproaches to her. The consequence was that what was nothing but manner, the effect of a foolish habit, to say the least of it, often became something more serious, and the altercation which began in nothing, left a heart-burning that was painful to both and prejudicial to affection. Yet it is but justice to say they were sincerely attached to each other; and after all their bickerings and disputes, Martha would declare that she would not be unmarried again for all the world, though it was of no use to hope they should ever agree better than they had ever done.

Martha's management of her children partook of the same character as that of her husband. As far as the cleanliness of their person and clothes were concerned, not a fault could be found. She took every care to wash them well, and to keep every part of their dress in perfect repair; but what they did, what properly depended upon themselves, was another matter. Children, according to her, were naturally dirty or untidy, and would, in spite of all that was said to them, soil or tear whatever was put upon them, the best as well as the worst; where was the use of correcting them? A person might always be speaking, and to what end? Why only to vex herself and wrong her children; better to let them have their own way, and run no risk of hurting their temper, she had quite enough of that from their father.

One of her boys was a child of quick parts, and of an amiable disposition, but he required a judicious hand to guide and manage him. He loved his own way and he generally obtained it. He might have got on fast at school but he wanted application, and his mother could never be persuaded that it was of any use to urge him to be more industrious. Yet a few words from one he loved and respected would have been very beneficial to him, and he would have rewarded well any pains taken with him. One of her little girls was very timid. A harsh expression or an angry tone of voice had always such an effect upon her as to make her shrink from the disclosure of the truth, and not unfrequently to tell a falsehood. In consequence, the child was blamed for the error of which her mother was often the cause, and an epithet bestowed upon her which she hardly deserved. Certainly a little judicious management would have prevented every threatening evil—encouragement instead of hasty commands to have 'out with it at once,' would have led to the perfect disclosure of the truth, and gradually confirmed her in a virtue which she really loved, but had not the courage to practise.

Mrs. Grey saw the error of her daughter, and reasoned with her on the subject; but Martha declared she was not uneasy, that all children were inclined more or less to tell stories, and knowing that, where, asked she, would be the use of making a fuss about it?

"I want you to make no fuss," replied Mrs. Grey, "but I wish you to assist the poor child, and I warn you of the consequence of not doing so. If she contracts the hateful habit of story-telling, you will be the person to blame, though she may be the sufferer for the offence. Oh, Martha, how I wish you would take pattern by your next-door neighbour!"

"I would not lead the life that Mrs. Collins does," replied Martha, warmly, "for all the gold of foreign parts. From the moment she gets up till the instant she goes to bed, she is working against the stream, and what good comes of it? Perhaps Collins may walk up steadily to bed now and then when he would have gone rolling and reeling about, not seeing one step from the other. Perhaps she may keep off for another half-year a distress for rent, and that violent boy of hers may throw himself into a fit not quite so often as he might."

"And do you call that nothing?" said her mother; "oh, Martha, I call it many steps gained."

"But will she ever obtain the end of all her pains?" cried she, "no, never; mark my words, mother, you'll see that all she may do will be of no use at last."

"And we *shall* see, not all perhaps that we could wish for poor Jane's sake," returned Mrs. Grey, "but some improvement in matters to reward her. She is in the right path, and good never fails to work its way, little or much—and why? Because God's promise is with them who strive to do their duty, and seek in truth to serve and please Him. I am sure you will not deny this."

Martha did not deny what good sense and right principle whispered was right; but she was suddenly seized with the impropriety of interfering with her neighbour's concerns. It was her way, she declared, never to trouble herself about what others did. Where would be the use of that? she might have enough to do, and she had already as much as she could get through in her own business, and often more too. Of course no more could be said on either side.

The person of whom Mrs. Grey spoke thus warmly was indeed worthy of imitation. Her husband was a tailor by trade, and very clever in his business when he would attend to it; but he loved pleasure, and he loved drink too. The former inclination he took no pains to disguise, the latter he carefully endeavoured to conceal. Much of the real labour of the shop, therefore, devolved on his wife. She had taught herself his trade, and could work nearly as neat as he: and well for all was it that she had thus met the evil from the very first, for inevitable ruin must otherwise have been the consequence. It was she who held all things together, it was her industry that not only kept the wolf from the door, but preserved a tolerable degree of comfort and peace within.

Martha beheld Jane's first attempt to stitch a button-hole in a gentleman's coat, and predicted that she would never finish it to give satisfaction; but she was wrong, Collins gave his wife great credit for her work, on which Martha shifted her ground: "Where's the use of it?" said she, "I can see, Collins will never stitch another button-hole, and Jane may work her fingers to the bone."

Martha was not very much out of the way in the first part of her surmise, though incorrect in the latter; the button-holes became indeed Jane's department, but she suffered no inconvenience from it. When, however, Martha witnessed her painful efforts to complete a pair of jean trousers which her husband had neglected to finish agreeably to promise, her poor fingers sore and bloody, and that she herself was almost exhausted with fatigue (for she was very near her confinement), she vehemently urged her to give up the attempt.

"Where's the use of it, my dear creature?" said she, "you only encourage your tiresome husband in his foolish ways. Let him give up pleasure a little more than he does and stay at home, and there would be

no need for you to work in this way ; but that's what he'll never do so long as you will work for him. And if the trousers are not sent home on Saturday evening, they might be on Monday."

"But a good customer might be offended and even lost to us," replied Jane ; "and if we are both wasteful, what is to become of our poor babe ? No, Mrs. Miles, what I am doing will be of use some day, and that hope alone must keep me firm to my purpose."

"Well I wish it may," said Martha, her naturally kind heart pained at the sight of Jane's discomfort ; "come, set me to work, I'll sew the lining in, and be glad to help you."

Jane accepted her offer gratefully ; and Martha had the double pleasure, on accounting to her husband for her absence, of receiving his commendation of the neighbourly act.

Jane asserted no more than she performed—her resolution and her patience did not fail. She became a very neat and expert workwoman, and long saved her husband the expense of a journeyman. True, indeed, hers was a hard struggle. Collins would sometimes spend as much in one day as their united labours earned in many ; and sometimes her good principles and steady determination were tried to the very utmost : still she did not give way. Whilst Martha contended it was of no use to row against the stream, Jane maintained it was of no use to yield to difficulties ; and the dispute generally ended by Martha declaring that though she could not do as Jane did, she could not but love her the better for her conduct.

The boy also, to whom Martha formerly alluded, was a source of great anxiety to his mother, and required the nicest management. Mrs. Collins had had several children, none of whom had been healthy, Richard being the only one that had survived the age of five years. He was subject to epileptic fits ; and when these were hanging about him he was exceedingly irritable, the slightest contradiction always serving to bring on an attack. Sensible of this, his mother was at once firm and kind in her behaviour to him, whilst Collins, making no allowance for the boy's infirmity, or foolishly giving it too much thought, would at one time oppose his wishes unnecessarily, and at others grant him every indulgence in his power.

As the two families were on very good terms, and the women especially much attached to each other, their children were naturally a good deal together. It happened one day that Martha had "stept in" just to ask Jane to let her boy Richard come to play with her young ones when they all came home from school, as she had a bit of a treat for them : a luncheon cake had been spoilt in the baking, and as such it came to the children's share. Jane readily gave her consent, entreating only that Richard might not be allowed to eat too much.

"No fear of that," replied Martha ; "there won't be too much for any one, when all have had their share ; besides it's not rich enough to do any one harm. But where's the use of being so very strict in such trifles ? Now, I say, if you are to give a child a treat, give it him ; a little mite of a slice only makes him want more, and turns what is meant for a gratification a downright punishment. It's bad enough to be weak and poorly, and to have a stomach that nothing will suit, without being put in mind of it at every turn."

"Richard is accustomed to such restraint," replied Jane ; "only tell him at first that he is to have no more than you give him, and he will be content."

At this moment Martha was loudly called by her husband.

"Heigh day!" said she answering him "what does that mean? Miles is hardly in his tantrums?"

Again "Martha" was shouted.

"I'm coming; where's the use of making all that noise? I'm coming I say. Send Richard at twelve o'clock—mind you don't forget;" then waiting for no second assurance, she stepped from one shop door to the other.

"What are you gossiping just now for?" cried Miles, as soon as she entered. "You know, don't you, that I have always so much to do on a Monday that I can't tell which way to turn myself. If I had a hundred hands there would not be too many, and yet you must needs be chattering with every fool that comes in your way."

"Jane Collins is no more a fool than you," returned Martha; "what a parcel of stuff is here about nothing at all!"

"Business like mine nothing at all?" retorted Miles.

"Well, where's the use of grumbling and storming about your having so much?" said she; "it's not more than you wish for, is it? It would be worse to have no business at all, I should think, and so would you."

"Who asked you what you think?" said Miles; "now set about something, do; fill that basket, the boy has been waiting this half hour for the bread, and look for Barker's bill which is to be sent to-day instead of Wednesday. Change for a five pound note—three sovereigns, two half sovereigns, and twenty shillings—mind, no blundering."

"For whom?" said Martha. "Where is it to be sent?"

"Where's the use of bothering me?" cried Miles; (Martha remained steadily looking at him) "to Althorpe's—to be sure. Now don't be all day about it—can't you move quicker; one might as well set an old cow to count silver."

During the whole of this time Miles was, as he said, in almost every part of the shop or bakehouse at once; now at arms' length reaching the loaves he wished for, now calling to the men in the bakehouse, now giving directions to the boys, now impatiently executing the order himself he had given to another. Had his whole frame been hung on wires he could not have put himself into more attitudes; and had a wager depended on volubility of speech, or multiplicity of invectives against slowness, reproaches, and it might be words and expressions of a more reprehensible nature, Miles must have been the winner.

"Now where's the use of putting yourself out in this manner?" cried Martha; "bustling gets through no business, and I'm sure being cross does not."

"Being slow like you doesn't," returned Miles. "Now off, Bill, with that basket—no loitering on the way; now for this, eight, nine, ten—there, now I'm out of my count. (A child had spoken to him.) Give that girl a stale loaf, Martha—six, seven, eight—"

"You are not to forget the tea-cakes this evening, Mr. Miles," said a servant in livery, putting his head into the shop, "do you hear?"

"Hear!" exclaimed Miles, "who's to attend to everything at once?"

The servant repeated the order.

"Oh! I heard all about it," said Miles; "fourteen, fifteen. Now take up the basket, and make the best haste back again you can. Is Jim and the cart there?" and he took a few hasty steps with a view to look out of the shop door. He stumbled over Martha. "What are you standing in my way for?" and he pushed her aside.

"I won't be pushed about!" exclaimed she, indignantly. "You are

fit to do one a mischief; such stuff and nonsense. If you had all the business in the world you could not make more fuss about it. Where's the use of it all? I'm ashamed of you."

This was enough. Miles flew really into a passion, and many harsh words passed between them. Mrs. Grey was in the shop, tendering her assistance, slight as it was, and heard all that occurred.

"Oh! Martha!" said she, as soon as they were alone, "why need you have said anything to Miles? What a pity it is that people cannot keep their tongue in their teeth, when so much depends on their being quiet! You know as well as I do, that if you had said nothing, all would have been over as soon as the boys and men were off with the bread, and he would have been as goodhumoured as possible."

"Well, well," said Martha, "say no more. Miles will forget it before night, and if not, there's no use in making a fuss about it now;" and so she quieted the feeling in her heart which prompted her to confess that she had been wrong.

HISTORY OF CAOUTCHOUC.—No. VI.



EVERY person is now familiar with the elegant and ingenious tissue in which threads of caoutchouc are confined, so as to render it elastic. This

is the fabric of which the springs of gloves, and the elastic part of braces, &c., are made. This tissue is said to have been originally invented by a major in the Austrian service; and very large factories exist in several places in France, which produce nothing else. There are several steps in the process of manufacture which are extremely interesting. In the first place, it is necessary to obtain a thin tape of caoutchouc. In the next, this tape must be cut into delicate threads. These threads require stretching and winding: they are then woven, and finally, their elasticity, of which they had been deprived, is restored to them. In order to procure the thin caoutchouc tape, a hollow cylinder of this substance, or one of the best bottles imported from Para, is put upon a cylinder of soft wood, of such dimensions as to keep it equally distended. It is then secured to the shaft of a lathe, and exposed to the sharp-cutting edge of a circular steel knife, which is kept constantly moistened with water; and its movement being regulated by a screw, it is easy to cut off a spiral length of caoutchouc from the cylinder, of any desired thickness. Another and very ingenious way of effecting the same object is by preparing the caoutchouc in the form of a thick circular cake, which is made fast at its centre to the end of a horizontal shaft, while its circumference is exposed to a circular knife of cast-steel, revolving at the rate of three thousand times a minute. During its revolution, it is constantly moistened by a jet of water, which both cools it and facilitates its action upon the leathery texture of the caoutchouc. In this way, a tape of any length, and of any requisite thickness, may be obtained. This process is well adapted for the caoutchouc in its recomposed state. The former is more suitable to it in the state in which the best is imported; and it is generally considered that caoutchouc is stronger when employed without having been kneaded than after having been subject to that process. Such caoutchouc, however, must be extremely pure, and, consequently, is more costly than the other kind. Thus the thin tape is procured: this is now to be cut into threads. Some young girls are generally employed to effect this delicate task. Taking a piece of the tape in question, it is drawn through a guide slit against the sharp edge of a rapidly revolving steel disc. In this case, also, its surface is constantly wetted. By this means it is cut into threads, as thin or as thick as may be desired; the slit determining that point. By some apparatus of another kind, the same process is effected without manual assistance, and a number of threads are cut at once. It is a curious fact that these threads, so delicate and elastic, may be easily pieced, if broken, by being obliquely cut, and the pared fresh edges gently pressed together. These threads must now be stretched, and made to lose their elasticity. This is absolutely necessary, prior to its being woven. It is effected by winding upon power-reels the thread, which is at the same time stretched during its passage through the wet fingers of winding boys. So much heat is extricated, that a stranger, who attempts to hold the thread in the process, gets his fingers severely burnt. It is then left for some days, at the expiration of which all its elasticity seems to have vanished, and it can be treated as common cord. It is now conveyed to the braiding machine. By this apparatus the caoutchouc thread is neatly enveloped in a covering of silk or any other fibrous material. When it leaves this machine the caoutchouc is no longer visible. It is still inelastic, and is preserved in this state until after its manufacture into tissue by means of ribbon-looms. Some beautiful looms of this kind are in operation in the neighbourhood of Holloway. One of these elegant automatic mechanisms will weave in one week five thousand

yards of elastic tissue, an inch wide, requiring only the inspection of a woman, who watches, and, if necessary, controls its movements. The process is now complete. But the tissue is inelastic! How is its lost property to be restored? It appears that, in the loss of its latent heat in the process of stretching, this wonderful property of elasticity was also lost. It is a most curious fact, that by simply warming the tissue its elasticity at once returns; and the fabric is completed simply by passing a warm smoothing-iron over it, upon a piece of blanket. By a most ingenious arrangement, the shrinking which thus takes place has been made to produce a variety of patterns upon the fabric, so as to make it resemble coach-lace. These tissues are valuable for many surgical purposes, and for various articles of dress. The elastic thread is prepared of different sizes: the finest forms ladies' bracelets, and of this, in a pound weight, there are five thousand yards. It is also used for cordage, and will bear double the strain of the best sort of hempen cordage, uncombined with caoutchouc. Some of the braiding machines, for the manufacture of these coarser kinds, are quite gigantic.

Let us now see how a macintosh is made: and first, of the waterproofing solution, or paste. All kinds of coarse and refuse caoutchouc are suitable for making this material. These pieces of caoutchouc are thrown into a cast-iron vessel, which is fitted with a close lid, and contains a stirring apparatus, moved by mechanical power. The whole arrangements being complete, the lid is secured, and the stirring apparatus is set in motion. By this means the lumps of caoutchouc, over which a certain quantity of naphtha is poured, are comminuted, and on every side exposed to the action of the solvent. A large amount of latent heat is extricated, and so far favours the solution of the caoutchouc that no external application of heat is required. This goes on for two or three days, at the expiration of which the solution is finished. It is then removed from thence, strained, and worked into a smooth paste by passing between polished rollers. Formerly, it was customary to make the solution very liquid, and to drive off the excess by heat; but at present this waste is not allowed, and only so much naphtha or other solvent is employed as will produce, when finished, a paste of the requisite thickness. If it is necessary to colour the waterproofing paste, a portion of lamp-black or other pigment is mixed with it. The paste is now ready for application to the cloth.

The room in which this process is carried on is a large one, and contains a number of powerful machines for this purpose. On entering it, the smell of the naphtha used to dissolve the caoutchouc is overpowering. The effect upon the workmen at first is remarkable. We were assured by the manager that frequently the vapour made him feel so thoroughly intoxicated as to render him incapable of walking straight, on immersing into the open air. But the effect is very transient, resembling that of ether or chloroform, when inhaled into the lungs. It did not appear, however, from such inquiries as we were able to make, that any permanent injury was done to the health of the workmen. The cloth employed for macintoshes is of a peculiar kind, made for such purposes exclusively. It is wound upon a large roller, which supplies it to the machine for applying the paste. The free end of the cloth is passed between two rollers, which spread over its surface, at any degree of thickness required, the layer of caoutchouc paste. A mass of this paste is placed in front of the rollers, on the upper surface of the cloth, as it passes between them. The action of the upper roller, which is of cast-iron, heated, is such, that it spreads the paste

with the greatest smoothness and accuracy upon the cloth, which is drawn forward upon an endless web. The cloth, after receiving its layer of paste, continues to be drawn forward, and passes over heated surfaces, which drive off the superfluous solvent from it. Afterwards it is wound up on a drum. It now forms a single fabric, perfectly water and air proof. Until lately, single fabrics were never used; and the ordinary macintosh consists of two such layers, which are united into one by being passed between heated rollers: the paste-covered surfaces then adhere together, and the macintosh, when dried, is complete. The purposes to which the cloth thus made is applicable are innumerable. Silk, alpaca, and other tissues are also waterproofed in the same way.

EASTER-DAY.—A SONNET.

MOST glorious Lord of life, that on this day
 Didst make thy triumph over death and sin;
 And, having harrow'd hell, didst bring away
 Captivity thence captive, us to win!
 This joyous day, dear Lord, with joy begin:
 And grant that we, for whom thou diddest die—
 Being with thy dear blood clean wash'd from sin—
 May live for ever in felicity!
 And that thy love we weighing worthily
 May likewise love thee for the same again;
 And for thy sake, that all like dear didst buy,
 With love may one another entertain!
 So let us love, dear Love, like as we ought—
 Love is the lesson which the Lord us taught.—SPENSER.

TO DAFFODILS.

FAIR daffodils, we weep to see
 You haste away so soon;
 As yet the early rising sun
 Has not attain'd his noon.
 Stay, stay,
 Until the hast'ning day
 Has run
 But to the even-song;
 And having pray'd together, we
 Will go with you along!
 We have short time to stay as you;
 We have as short a spring;
 As quick a growth to meet decay
 As you or anything:
 We die
 As your hours do; and dry
 Away
 Like to the summer's rain,
 Or as the pearls of morning dew,
 Ne'er to be found again.

HERRICK.

ADVICE.

A MAN who cannot mind his own business, is not to be trusted with the king's.—SAVILE.

THE
HOME FRIEND;
A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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THE FOUR HARVESTS IN SYRIA.



THE WHEAT HARVEST—THE SECOND MOWSOOM OF SYRIA.

WHEN Noah, after his delivery from the Deluge, constructed an altar, and in the fulness of a grateful heart offered up sacrifices to that all-merciful

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T

and beneficent Creator, whose pity and protection had rescued him and his household from the devastating destruction of the waters that were upon the earth, then we are told that "the Lord smelled a sweet savour; and the Lord said in his heart, I will not again curse the ground any more for man's sake, for the imagination of man's heart is evil from his youth; neither will I again smite any more everything living as I have done. While the earth remaineth, seed time and harvest, and cold and heat, and summer and winter, and day and night shall not cease." (Gen. viii. 21, 22.) With words like these, uttered by thankful lips, let us go forth and watch the rich fields bowed with the weight of harvest treasures, waving to and fro, like streaks of golden light, under the southern tinge of the short but pleasant Syrian summer's twilight.

The newly-reeled silk has been barely disposed of, when the time and labour of the peasant and his family are again in requisition. Their profits, and the wages for their labour in the silk mowsoom, consisted of one-third of the net proceeds of the silk; in the wheat harvest, however, they have no claim to a share. The fields are the property of wealthy Turkish gentlemen, who seldom employ more than two or three hands and a couple of yoke of oxen for the care and cultivation of each field. The ground is abundantly fertile, requires but little ploughing, and the main occupation of those who tend these fields consists in scaring away birds, both at seed time and when the harvest is ripening. To gather in this harvest, of course, gives occupation to several labourers, and these labourers receive, as recompense for their labour, so many measures per day-work, or else a stipulated quantity of wheat for their entire labour, during the gathering in of the harvest. When the harvest is ready, then the lord of the manor goes round to the peasants and enlists their services, very much in the words of the Prophet Joel, "Put ye in the sickle, for the harvest is ripe: come, get you down." (Joel iii. 13.) This call is obeyed with alacrity. The peasant rises with the early dawn, partakes of a hearty breakfast, which is ready prepared for him by his industrious wife, but which often consists of such rough materials as would occasion an English labourer a fit of indigestion: cold boiled rice, remaining from last evening's supper, hot chilly pickles, young green cucumbers, sliced up with onions and garlic and steeped in vinegar and olive. Sometimes a small bit of fried fish or meat, and sometimes no meat, but a few vegetables stewed up with herbs. This strange meal is generally wound up with a huge water melon and a cup of cold water. Coffee is a luxury the peasant indulges in only during winter, and then very rarely. Tea and sugar are wholly unknown to his palate, and yet he is a fine hale, stout-looking fellow, enjoying better health and livelier spirits than hundreds who have thousands of golden guineas at their command. He starts off for his work with a blithe song, very uncouth to European ears; and at this early hour the only chorus he can command is the sweet song of the skylark, as she balances her wings on the morning breeze and wakes all nature with her hymn of praise. The peasants congregate in the fields a good hour before daylight, and under the superintendence of a head man they fall to work with a good will. During the three first hours of the day they accomplish more work than they can get through in the other seven during which they work. The reason of this is the fresh coolness of the morning, and the absence of flies and bees which annoy and interrupt them during the hotter hours, and the scorching heat of the sun which, from 10 A.M. till 4 P.M. enervates them, blistering their hands and face to

a painful extent. The track of the reapers is always followed by the children of the village, who are provided with bird-cages and snares for hares and larger game. As the wheat is mowed down, the nests of the poor larks and other birds, and the spots where the hares have burrowed and hid their young, are beat up and ransacked by these young marauders, who, like so many young Columbuses, are bent upon wonderful discoveries. Sometimes as we watched groups of these urchins carefully hedging in a bush which they imagined to contain a *mayer's nest*, they would suddenly disperse, in all directions, with the greatest precipitancy, and with terror depicted in their countenances. This arose from their having stumbled across a snake habitation in lieu of a partridge's nest, and their shrieks of *Hie-hie* (Snake! snake!) invariably attracted the attention of our *naturalist*, who had much to do to keep the peasants from disfiguring his specimens of serpents by treading on their venomous heads with their thick clothhopper's boots. The peasants so frequently meet with and accidentally tread upon snakes during reaping time, that they are obliged to adopt the utmost precaution in guarding against their stings. A peasant in his ordinary every-day summer avocations will prefer to go from place to place barefooted, and with his boots slung over his shoulders; this is for economy sake, as also from the fact of their boots being made of such thick, coarse leather as necessarily inconveniences the wearer; but whilst reaping they never remove these boots, having, in a great measure, removed the evil by first bandaging their legs and feet with old linen rags. After they have worked for about half an hour, a general halt is called of a few minutes' duration. They now rest themselves, and take a few whiffs at their pipes or narghies, a stock of which is always provided by the proprietor, who has also two men occupied throughout the day in filling and supplying these pipes: and the labourers are further indulged with several small cups of sugarless coffee, which they partake of with an evident gusto and relish.

The narrow shade under the olive and fig-trees declares the hour of mid-day to be nigh at hand. By this time the heat is intense, and swarms of bees and horseflies are buzzing drowsily about; the labourer is drenched to the skin, as though he had been in a vapour bath; the overseer bids them desist from their work, they lay by their implements in a heap, and, congregating on some bank where the sun strikes fiercely, they take off their boots, and disrobe themselves of so much of their clothing as decency will admit of. The clothes are hung on thorn-bushes to dry, and their bodies, for the same purpose, are stretched along the banks, the head and face being well secured with a thick meshlah, or goat-hair cloak, from the fierce rays of the mid-day sun. Here the peasants are literally half-baked before they resume their clothes again. They have now, however, no fear of catching cold, which they certainly would have done had they sat in the shade with garments soaked through; and the result of such carelessness would have been a fever, which, as there are no doctors in the neighbourhood, might hang about the peasant for a year, prevent him from work, impoverish his family, and, as is often the case from want of proper nursing and treatment, eventually terminate in his death. To avoid all this he prefers a momentary inconvenience. Once well-dried by the sun, the peasant gladly avails himself of the pleasant shade of a group of friendly olive trees; he stoops and drinks deeply, and again and again, of the delicious cool rivulet that flows along close to his feet; and then he lights his pipe and smokes, and casts his eye anxiously in that direction from whence he expects his wife speedily to make her appearance with his

substantial mid-day repast. He has worked hard and his appetite is keen, and anger is rapidly taking the place of hunger, when something wrapped from head to foot in a white sheet heaves in sight. Were the peasant a seafaring man, he would hail the distant sail, and find out what course she was steering, or for what port bound; but being only a lubber, he contents himself with eyeing her intently. Now he thinks it is his own pretty Mariam, and he smacks his lips at the meal in perspective; then he is doubtful, and finally his doubts are painfully removed by the woman proving to be another man's wife; and, what is still more annoying, she has brought her husband such a pillauf that the very odour of it drives all stoicism from the other expectant labourers, and audible threats are muttered, little to the consolation of their really industrious young wives. Here they come, six, eight, ten, a dozen of them altogether, all chattering and laughing and merry, as though no one was ever hungry or waiting for their dinners. The sight of them, however, is all-sufficient. A gleam of sunshine passes over the clouded brow of the sufferers; a smile lurks under the dark moustache; the pretty little cooks uncover first their pretty faces, and the husbands, looking on these, feel proud and happy, and then they uncover their platter; the husbands are charmed and contented as princes. Bless us! what an array of tempting edibles! Pillauf of rice and fresh butter, with onions, fried crisp and brown entrée of fowl and egg, vegetable, curded cream, scores of young cucumbers or bundles of radishes, heaps of bread, and such a water melon!—such a water melon as only fair Syria can produce. The peasants fall too with a hearty appetite; there is no lack of fruit, for there are twenty different sorts of figs, ripe and *selling* by donkeyloads in the markets; the repast is ended, the wives have run home with the empty platters, the peasants have smoked their after-dinner pipe; there is a stillness in the air as they, wrapping themselves comfortably in the loose folds of their meshlahs, choose out soft shady spots for an hour's nap. The cry of the muezzin, announcing mid-day, is heard faintly from the distant minarets, and three minutes after, the lord of the land and the overseers and the labourers are all snoring peacefully beneath the shade of the olive trees, awakening the woods, like so many Anti-Tityruses, with no very sylvan music. The shade steals away to the eastward, and the groups of labourers awake to a sense of refreshed energies; the sickle is again busily at work; the heat is now more intense than ever, so great that the swarms of buzzing bees and flies have betaken themselves to the more congenial atmosphere that they find amongst the thickly-shaded twigs of myrtle and wild-briar bushes; but the hardy peasant works on, heedless of the stifling atmosphere, though the very earth, rapidly as he mows down the wheat, cracks and bursts under his feet; his only cry is for water, and this is plentifully supplied from porous earthen jars, which possess the good quality of retaining the water fresh and pleasantly cool. Not a note of a bird is heard, neither is there a breath of air to stir the loftier branches of the tallest trees. The blood-sucker and the lizard bask in the scorching sun, stretched out on baking stones or crumbling hot earth, patiently watching for their prey, and the labour of the reapers still continues unabated. Carefully the lord of the harvest watches their proceedings, encouraging the men to fresh energy, smoking incessantly, singing snatches of love ditties, and sometimes lending a hand to bind up the sheaves: thus pass the hotter hours of the day. Four o'clock arrives, and the surface of the distant ocean, which brilliantly reflecting the glare of the sun seemed like a vast sheet of melted lead, is now rippled by the fast-

approaching sea-breeze; the topmost branches sway to and fro under the gentle pressure, a rustling is heard amongst the bushes, the peasants pause in their labour, and inhale, with unspeakable delight, the soft cool breath of the welcome stranger. The first few puffs are impregnated with heat from the scorched-up earth; then there is a pleasant smell of the sea-shore and shells, and the breeze rapidly grows more vigorous. The wind whistles cheerfully through the branches of trees; feathered songsters are recovering from their lethargy, the bee flies away to its distant home, the peasants fall to with renovated frame, and the work of the reapers is progressing.

The sea-breeze has scarcely announced the pleasant cool hour of evening to the villagers, before we see approaching from ten to a dozen women and children, whose poor and scant garments at once proclaim them to be the paupers of the district, come forth at this late hour to glean, where and how much the lord of the field will allow. All these poor creatures, God help them! do not meet with such luck as attended on Ruth and her gleanings; there are not many Boazes in the land now-a-days; but still the law of precedence prevails, and let the owner of the field be ever so pinching and avaricious a man, he is forced to submit to the gleaners, and they come and glean as a right: but what with the birds and the ants, but small supply of wheat would be gleaned were it not for the kind hearts and generosity of the reapers, in whose eyes (in the words of Ruth) they "find grace." These men, well inured to the hardships of poverty, can appreciate the sufferings of their fellow-creatures; and as they bind up the sheaves they let fall the ears, or conceal some in their bosoms, which they afterwards drop when the gleaners are close upon their heels. There are, however, just men amongst the Turkish landholders, exceptions to a general rule, who make it a point of conscience never to withhold their just rights from the poor gleaner, or to muzzle the ox when it treads out the corn.

So the evening closes in pleasantly and cheerfully; the men work with a good will, the gleaners follow on their track; the sun dips his fiery orb in the blue waters of the mighty deep; horses, mules, and donkeys arrive on the field of labour: these are speedily laden with the ready-bound sheaves, and the sheaves are carried to a convenient spot where they may be winnowed and beat out. The peasants return to their respective homes; their children come forth to meet them, and proudly display the trophies of their day's work, consisting of young hares, partridges, quails, and innumerable unhappy birds, which have been entrapped by means of the *dibbiuk*, a species of birdlime, which, being placed in thick layers upon twigs and branches of trees, seldom fails to ensnare many of the feathered tribe. The wife welcomes the husband home with a substantial supper, and all the family partake of this meal, seated on a mat placed in front of their humble little dwelling. No one is excluded from this social meal. The old watchdog occupies regularly his position, and the cat keeps her place, and the fowls walk round and round, and sometimes make a rush for the dog's bone, or give chase to some hen that has committed a felony on the youngest child, snatching the tempting morsel from its feeble grasp. Supper ended, the peasants congregate near one or the other of the houses: if it be moonlight, they smoke and tell and listen to each other's tales and adventures; if dark, a small earthenware lamp is hung conveniently for the best instructed to read by, and others listen open-mouthed and gaping as they hear about the young gleaner Ruth, or how Jonah was swallowed by the whale. Save the Bible, they have seldom any other book; and had

they only amongst them one who could explain clearly and simply what he read and they heard, the impression would be greater, the seed well sown. Whilst the men are thus occupied, the women are busy burnishing up cooking utensils, scraping up odds and ends for to-morrow's breakfast, sweeping up the floor, and spreading the mattresses on mats for the family to sleep upon: the men are weary of the day's work, and speedily betake themselves to rest, and by nine o'clock the whole village is hushed in slumber, and left to the care of the faithful watchdogs. Thus the harvest is gathered in, day after day, until the work is completed. The corn is winnowed and well cleansed; straw stacked up against the winter; the reaper takes his donkey with a couple of huge sacks, and goes for his hire; the lord of the field gives him full measure as stipulated for, and sometimes a little over; the peasant brings this home, and his wife knows exactly to a measure how much is required for their household consumption, so as to last them the year through till the next harvest arrives: to this a few more measures are added, to be bestowed in charity, and to meet the urgency of an occasional guest, a friend, or relative dropping in for a few days. What ever remains, after this is done, as surplus, is bartered for butter, cream, cheese, and other household necessities, which are brought to the market by the wild Turcoman tribes inhabiting the plains, whose flocks and herds are numerous, and afford them endless store. The wife now separates from the wheat so much of it as has to be converted into burghul, and having done this, she proceeds to make her *burghul*. First and foremost this wheat has to be well washed; and the easier to accomplish this the family generally encamp for a few days under some tree on the borders of the nearest stream. Here mats are spread; the wheat is carefully washed by the hand, and then spread out to dry on the mats: when perfectly dry, it is boiled in immense iron boilers till each grain attains to nearly double its size. This is then thoroughly dried again in the sun; then the husband places it in sacks, and carries it off to burghul mills, erected expressly for this purpose. Here the boiled grain is ground into gritty substances of two very different dimensions; the larger, coarser-ground grains are placed in a sack, and that portion which is ground much finer is placed in another; the former only serves for making kubays [an entirely Arab dish, of which the Syrians are very fond, and which consists of a species of forced-meat ball, made of suet and meat cut very fine, and mixed with red chillies, onions, garlic, salt and pepper; the whole is then bruised on a flat stone till it assumes the substance of paste; this is then formed into oval balls, and is either fried in butter or simply boiled, or else boiled in a soup composed of curdle-cream, cabbage, sour grapes, and the kubas]; the latter is used in pillauks, or simply boiled like rice. Sometimes the kubay is baked in tin squares in ovens, and then to those who are unaccustomed to such a dainty, it has much the same effect as chewing a mouthful of hard gravel. Of the remaining wheat, one-half is immediately ground into flour for bread, &c., and the other half remains to be ground as it may be wanted, some portion of it being occasionally boiled with meat, and seasoned with onions and pepper, which is another dish to which the Syrians are much addicted.

Just before the harvest is gathered in, and when the wheat is just upon the turn, the children of the village are more to be dreaded by the proprietor of the field than all the crows and other birds put together. These juvenile delinquents, whenever they can do so unobserved, crop off large ears of green corn, and collecting large aprons full of these, bake them,

stem and all, in the oven ; or if there be no oven, in the hot cinders of a wood fire. When baked properly, the flavour is delicious. The proprietor of the wheat, having gathered in the harvest, paid off the labourers, and stacked his straw and warehoused the wheat, goes about negotiating with merchants for the sale of the year's crop. Some portion goes inland, vast quantities are shipped for ports in the Mediterranean, and not a small supply is annually brought into the markets of Great Britain. Even after the gleaners have done with the fields there is much that escapes their eye, which serves for many a day to feed the neighbours' fowls and countless birds and sparrows: cattle nibble at the stubble so long as there is anything left to be nibbled at. Then are these yoked to the plough ; the field is all over deep furrows ; the stubble has been gathered in for fuel ; a few pleasant light showers fall upon the earth ; grass shoots up rapidly where the wheat has grown, and the mulberry pushes out her young sprouts with increased and wonderful vigour. The peasants have now a few days to themselves, which they carefully occupy in arranging their hedges and ditches, fresh thatching their cottages, and planting out their autumn vegetables. July and a great part of August are past, and the vineyards on the mountain sides are thick-clustering with grapes ; some green, some purple, some of a deep golden hue, all ripening fast ; sweet in flavour, rich in the bountiful store they are about to yield. The peasant now shuts his cottage, or leaves it to the care of some old woman, and taking his wife and children, he goes up to the mountains, for in a week's time there will be ample occupation for them all, when the third harvest of Syria shall have commenced, and the grapes be ready for the wine-vat.

IT'S OF NO USE.—No. II.

AT twelve o'clock the children came from school.

"Oh, mother," cried Tom, the eldest, "I am so hungry!—may I have a slice of bread?"

"We'll see," replied Martha, significantly.

"Oh, don't say so," said Tom ; "you never mean anything when you tell us so."

"But I do mean something now, don't I, Richard?" returned Martha, turning to the boy who had just entered, and with a knowing look she went to the cupboard, from which she drew out the cake. "Now, who gets me a knife?"

In an instant two or three knives were held to her. She took the one Tom offered, because, as she said, he was the eldest, and immediately commenced operations. The eager eyes of the party feasted on the sight till each had received a slice, as it was a rule that no one should begin to eat before the other.

"Yours is not quite so large as theirs, Richard," said Martha, perceiving that he noticed the difference ; "but it's not my fault. I should have let you had as much as the others, poor boy, but you know who put the spoke in the wheel as to that matter. It would have done you no harm, it's my notion, if it had been bigger."

Whether these words had the effect of making the slice vanish quicker from the hands of the boy than it would have otherwise done, is doubtful ; certain it is, that it had disappeared long before the half of the others had been eaten, and his eyes, if not his lips, besought another piece.

"Ay, now," said Martha, "you want a bit more; poor boy, it's very hard he should be denied such a trifle."

Richard did not speak: the habit of obedience overcame the trial.

"Don't you wish for a little piece more?" said Martha.

"Yes," replied Richard, in an under tone.

"And no wonder," said she; "and a piece more you shall have. I see no use in people being so over-particular with their children."

As she spoke she took the knife, and stretching across the table reached the cake.

"You had better not," said Mrs. Grey, "it may disagree with him. His mother is very careful about what he eats."

"And where's the use of it, I say again?" returned Martha. "Does she cure his fits by it? not she, and she never will. But he is my boy now, and I shall do as I like; so here, Richard"—and she gave him a slice something larger than the first—"eat it up, you'll never be the worse."

Richard did not require to be told twice. He eagerly seized the proffered slice, which he quickly despatched. The cake was not, as Martha had told his mother, very rich; but it was heavy, and it had a particular taste from its having been much scorched. Martha, however, was sure the children would play off any evil effect that might otherwise result from it, and she dismissed them accordingly into the garden with a charge to run about as much as they could.

For some time they continued to amuse themselves with great cordiality. At length Richard complained of being tired, and immediately seated himself on a slope above which ran an espalier hedge of fruit trees. There were not many apples to be seen, but these were beginning to look very tempting. One small young tree in particular bore only two apples. These were of a large size and of a very bright colour. In default of a knowledge of the real name of the sort, Martha distinguished the fruit as her "cherry-cheeked Patties," and she was very proud of them. The children were strictly forbidden to touch them. The charge of them was given to Mary, who, to do her justice, was always trustworthy. As they sat resting themselves, for the others had agreed to sit still a little while, Richard fixed his eyes upon these apples.

"What beautiful apples!" said he. "How I wish I had one of them!"

"Very likely," replied Tom. "So should I, but we must not."

"Why not?" demanded Richard; "two are of no use to anybody."

"Mary won't let us have them," said Tom; "will you, Mary?"

"You know I won't," returned she; "didn't mother say nobody was to touch them? and besides you can't want apples now."

"But I do though," said Richard, "and if I mayn't have one of those pretty ones, I will have this;" and he snatched up a hard, sour apple which was lying on the ground near them, and began to eat it.

"Oh! Richard, Richard," cried Mary. "I'm sure you must not eat that; you can hardly get your teeth into it, it will kill you; come, give it to me."

But Richard showed at once that his teeth were sharp enough for the task, and that no fear of the evil consequences Mary predicted had any effect upon him, by the vigorous assaults he made on the apple, which Mary now struggled to take from him.

"Don't, Mary!" cried he; "don't pull me about, you make my head ache."

"Nonsense," said Tom, "don't talk like a girl; let's have a game at marbles, that will soon cure the headache."

Tom's proposal was irresistible. Richard esteemed himself a first-rate

player; the apple was thrown aside, and immediately secured by Mary, and the ring was set. For a few minutes all went on well, when Tom, who was, as usual, the loser when Richard was his antagonist, exclaimed, "Come, come, Dick, I shan't stand that, you don't play fair."

"Then I won't play any more," cried Richard, and he again seated himself on the slope.

"Oh, oh!" said Tom, "what nonsense! I didn't mean anything; come, don't be silly about nothing."

"My head aches very bad," returned he, putting his hand to his brow, "I can't play."

"Oh, that you can," said Tom; "only let's finish the game. I was only in joke. I know it was fair; you always do beat me; come now, come."

It was not, however, before Tom had uttered many times "Come," in his most inviting tone, that he could prevail on Richard to stir. He looked as if he had the headache; and both brother and sister at length told him he was very cross, an accusation which was not the more palatable because it was true.

A gleam of success now fell on Tom.

"There, there!" exclaimed Richard passionately, "now you don't play fair; I saw what you did, and I won't play any more."

He threw the marbles down that he held in his hand, and again retreated to his former seat. As he raised his eyes to answer Mary's kind inquiries whether his head was very bad, he again caught sight of the "cherry-cheeked Patties."

"Give me one of them," said he pettishly.

"What is come to you?" replied Mary; "how naughty you are, you know I dare not give you one, and I cannot."

"But I will have one!" cried he, rising.

Mary held him forcibly by the arm. "Oh, Richard!" exclaimed she, "pray be quiet, mother will be so angry."

"I won't be quiet," returned he, still more irritated. "Give me an apple, I say; I'll have a fit if you don't."

Tom set up a loud laugh. "Do," said he, "do, now for it!"

Richard sprang towards him in a whirlwind of passion, while Tom, to avoid him, ran on the opposite side of the hedge, where he stood still insultingly pointing at him, and exclaiming "Do, do."

In a perfect fury Richard dashed his hands through the hedge in the attempt to seize him, when on the instant he fell to the ground, brushing off the two apples, which rolled to the feet of Mary.

"Oh! what have you done?" screamed the terrified girl, "what shall we do? mother will be so angry. Get up, you naughty boy, you had better go home. Mother will whip us all when she finds it out;" and she began to cry piteously.

But Richard was unable to get up: he lay perfectly stiff and motionless.

"Mother, mother!" called Tom, as loud as he was able, "come directly."

Martha heard him, and throwing aside her work, ran with trepidation into the garden. The first object that met her view was Mary, holding the apples in her hand, and the picture of consternation.

"You good-for-nothing girl," cried she, seizing her and giving her a shaking. "I see them; it's no use attempting to hide them; you deserve the treat I have been giving you, don't you? Oh! my beautiful cherry-cheeks."

She snatched the apples as she spoke from the poor child, who so far from attempting to conceal them, had not the power to move, and gave her a smart blow on the shoulder.

"Mother, mother!" again cried Tom; "look, Richard is in a fit; how dreadful he looks! shall I run for his mother?"

"Yes, yes," said she, "be as quick as you can; that ever the unlucky boy should have come here! or that Miles should have spoilt that cake," for the thought that she should be blamed for what had occurred instantly shot through her mind. She had little time, however, to consider what she should say to Mrs. Collins should she ask her any questions, for the good woman, headed by Tom, now came running to the spot. Assisted by Collins, who had accompanied his wife and Martha, she carried the poor boy to his home, where, laying him on the bed, she watched his return to sensibility. The fit was longer and more violent than usual, and for some time after he had recovered his consciousness, he seemed to suffer greatly. He slept, but far from quietly, and when at length he awoke, he was very languid, and complained of feeling extremely sick. The cause was soon ascertained, and Jane blamed herself almost more than her neighbour for having entrusted her boy to her, knowing, as she did, how likely she was to indulge him.

In the evening Martha went to inquire after the boy. He was still in bed, too languid to use any exertion.

"Bless my heart," exclaimed she, after having gazed on him for some minutes, "how pale he looks! What shocking things these fits are. I'm sure I don't know what I should do if any of my children were troubled with them. I have enough to do with them as it is; that tiresome girl of mine, Mary, has made me very angry with her to-day. It all comes, I think, of giving children treats; if I am always in the same mind as I am now, I'll never give them another. I desired her not to touch the only two cherry-cheeked Patties that I had this year, nor let any one else, and she has plucked both of them."

"Are you sure?" asked Jane. "Mary always seems to me such a little trustworthy thing."

"I caught her with the apples in her hand," replied Martha; "there was no mistake there. So her denying, as she did through thick and thin, that she had not plucked them was of no use. I gave her a slap on her back though, that will make her remember doing what I desired her not to do for some time to come."

"Oh! you did not beat her, did you?" cried Richard, opening his eyes, and looking very sorrowfully at her.

"Didn't I?" said Martha, "but I did though; and should have punished her more I dare say, for she is often telling me stories, if you had not been so ill."

"Oh! I am very sorry," cried he; "Mary is not to blame—I'm sure she's not, though I cannot tell much about it. I wanted to have the apples; I put myself into a passion because she would not let me, and then the fit came, and I don't recollect any more."

Martha looked for the moment vexed with herself; but the expression on her countenance quickly vanished.

"Ay, well!" she said, "there's no use being sorry now—it's over; I must make it up with her some way or other; but, after all, it's her fault, not mine; why didn't she tell me how it all was?"

"Did you stay to hear what she had to say?" said Jane, "or encourage

her to tell you all? Oh! it is a pity to be so hasty with children; many a child is frightened into telling a story, who longs to tell the truth."

"Well, well," returned Martha, hastily, "it can't be helped now; I must make it up with her, as I said; she'll soon forget all about it."

"Is that the way you manage your children?" said Jane. "Oh! it will be well if you have not cause to regret it."

"Why, what would you have me do?" asked Martha.

"Tell her that you find from Richard that she told you the truth," replied Jane, "and then let the matter drop; but be careful for the future not to tax a child with a falsehood till you can prove it, nor to punish till you know the correction is really due; you had better let a child twice escape the blow he deserves, than once strike him unjustly."

"I don't see that," answered Martha; "if one did not punish a child at the moment, the odds are that he would never be punished at all; at least, that's my way; it's no use raking up old grievances. But what makes you say as you do?"

"Because correction, though delayed, must come at last, if the fault be repeated," replied Jane; "but when a child is unjustly punished, an injury is inflicted on his mind, and on all his better feelings, that sinks deep into the heart—in that of an amiable child, to wring it—or that of a bad one, to harden it—in both to lessen the respect and affection that they should entertain for their parent."

"Yes, yes, you are right, I believe," said Martha; "I will say nothing more to Mary about the apples. You shall have your way this time. I am afraid I must be honest, and tell you you hadn't your way about the cake; I did give him more, I own I did, than was good for him. You both of you blame me, don't you?"

"I wish you had done as I begged of you," replied Jane.

"But I did not," said Martha, "and I'm sorry for it; one can't see the end of everything. I meant it for the best."

"I know you did," replied Jane; "another time, however, be kind enough to think before you indulge my poor boy."

"Think!" repeated Martha. "Oh! my dear Mrs. Collins, if you were to know how I am often fixed you would not talk to me about thinking: my husband is enough to drive away the best thoughts that ever came into any one's head. Did you ever hear anything like him this morning? You had a specimen of his going on, or I might not perhaps say what I do, for there's no use complaining of what there's no cure for. He is enough to craze me sometimes—up here—down there—do this—take that—call Tom—send off Dick—these to be left at that house—this bag of biscuits at another; all in a breath, and all to be done at once. I hardly know sometimes whether I stand on my head or my heels, only that I have to use the last pretty often, and oftener than I like. He tires me almost to death; and if I say a word, or half a word, then comes such a storm, and he'll make use of words that no husband ought to speak or a wife to hear."

"But why say a word at all?" said Jane; "few husbands will bear to be spoken to, especially when they have a great deal to do, and are not in a very good humour."

She sighed, as she spoke. Martha took no notice of her observation, and continued. "And the worst of it is, the mischief does not rest here; there's Tom, he fancies, to be sure, that he must do the same; it's the way of the young cock to crow like the old one, and louder too sometimes, you know. He storms at Mary when he fancies he has something to do, and

Mary I expect, does the same by the younger ones. It's very tiring, and very trying too, I do assure you."

"Then take my advice," replied Jane: "never answer your husband at these times: you say it is of no use, and only makes bad worse; and you say right, it *is* of no use. It is his way, and though not a good one, nor a comfortable one for you, think how much worse things might be, and be thankful. To be unhappy one part of the day is grief enough, but what would a whole day's misery be?" She sighed, and then fearful that she had said too much, added cheerfully, "I am sure, for my own part, I have a great respect for Mr. Miles."

"And so you may," replied Martha, quickly; "quarrel as we may at times, and it is only at times, he is after all a good husband, a good father, and a good master. If once he would but leave off his morning freaks—"

"And you the habit of answering him," said Jane, with a smile.

"Why then," said Martha, "there's no use denying it, we should be as happy a couple as ever went to church together."

IMMIGRANTS FROM THE REFORMED FOREIGN CHURCHES—OLD MANUFACTORIES OF CANTERBURY, &c.—No. II.



ANCIENT MAIDSTONE.

UNDER the reign of the fiercely-fanatical Queen Mary, the Protestant refugees in England, who were already beginning to make themselves comfortable in the country of their adoption, experienced new calamities and miseries. The penal fires on the Continent from which they had fled were kindled in Smithfield, at Oxford, Norwich, and many other towns. Some of the humbler immigrants may have concealed themselves during the Marian persecution; but it appears certain that the majority, together

with all the learned foreign Protestant divines, returned to the Continent, and found refuge in some of the northern parts of Germany which had adopted the reformed doctrines, and that they were soon followed thither by many English divines and Protestants of note. But if the reign of Mary was a most unhappy one, it was but short. So soon as her sister Elizabeth ascended the throne, the Protestant fugitives, whether natives or foreigners, were encouraged or expressly invited to return.

In 1560, about two years after her accession, Elizabeth addressed a letter to the foreign Protestants, promising them the free use of their own form or forms of worship. "We are not ignorant," said the queen, "that ceremonies, &c., have been different in the various Churches since the birth of Christianity; in some, the congregation prayed standing, in others kneeling; it is nevertheless the same religion, provided their prayers are addressed to the same God. We do not despise *your* service, and we do not constrain you to adopt *ours*. We approve of your ceremonies, inasmuch as they accord best with the countries whence you come."

Seven years after this letter was written, another swell of the tide of Romish fanaticism strewed our S.E. shores with Protestant families, and the sad wrecks of their fortunes. In 1567, "upon the report of the Duke of Alva coming into the Netherlands with ten thousand veteran soldiers, the trading people of town and country withdrew from the provinces in such vast numbers, that the Duchess of Parma, the governess, wrote to Philip II., of Spain, that in a few days above one hundred thousand of his subjects had left the country with their money and goods, and that more were following every day." These industrious people, called Walloons, and for the most part natives of Artois, Hainault, Luxembourg, and parts of Flanders and Brabant, came in the greatest numbers to England, and settled at Canterbury, Sandwich, Dover, Maidstone, Southampton, Colchester, Norwich, and other towns, introducing the manufactures of woollen cloths, linen, bayes, sayes, and other stuffs, teaching the English to be dyers, cloth-dressers, silk-throwsters, silk-weavers, &c. Wherever they settled, these foreigners introduced wealth and many comforts and refinements. In addition to their particular trades and arts, they brought over fruit trees, roots of plants which had not been previously cultivated in England; and to them we are indebted for several of the vegetables now in common use. So rude was it, and so poorly stocked, that England can scarcely be said to have had a kitchen garden until the time of Elizabeth. The hop plant had been introduced from the Netherlands about forty years before this period, in the time of Henry VIII. Our flower garden was equally indebted to the Walloon immigrants, who, in 1567, really one of the most memorable years in our annals, first brought in the gilly-flower, the carnation, the providence rose, the musk rose, the damask rose, and other flowers and flowering shrubs.

The chroniclers, who did not disdain to record the year and date when the mighty queen first wore silk stockings, have also mentioned how and when Elizabeth got her first lettuce salad out of Kent, for which luxury Catherine, the first queen of Henry VIII., had been accustomed to send into Flanders or Holland.

Many of the Walloon refugees, who were weavers in silk and stuffs, made choice of Canterbury for their habitation, setting a high price on the benefits of the river Stour, and the easy communication with the metropolis. These worthy men, stating that out of love of religion and freedom of conscience they had abandoned their own country and lands,

houses, and goods, petitioned to have in this city a place of worship and a spot of ground wherein they might bury their own dead, asking at the same time for permission freely to make and sell certain specified goods, to have a school and a schoolmaster who shall teach the French language to their children, or to others who may wish to learn it, and to have the right of excluding all such new comers as did not bring sufficient testimonials of their probity and virtuous and religious life. This petition was signed by Hector Hamon, minister of God's word; Vincent Perimont, schoolmaster; Egidius Cousin, director of all the manufactories and works of the congregation; and by twelve housekeepers and three widows. With children and servants, these no doubt formed the whole original congregation of Canterbury. Among these first signatures we see the well-known name of Miot, and one or two other family names which (though in a corrupt shape) are yet to be found in Canterbury and various other parts of Kent. By the queen's letter of licence, directed to the mayor and corporation of Canterbury, the strangers, or all such of them as were approved by the archbishop, obtained all the simple but ample privileges they desired. In all the books before us which treat of this interesting subject, there is a confusion and contradiction as to dates and documents, several being occasionally lumped together that were quite separate in fact. It would appear that the privileges, though not all granted at once, were all granted within the term of a few years, or between 1567 and 1574. They were to hold and use "a competent church for their assemblies;" they were allowed to hire houses for such terms as they should think fit; and to sell all sorts of merchandize made by themselves, but only wholesale ("in gross and not by retail"). But they were on no account to make "cloth of kirsus such as the English do make at this present." They were allowed to have "a post with horses or waggons to carry and recarry their wares, as well to London as elsewhere, for to sell or to cause them to be sold, without interruption by the way, &c." Another item, and in those days an important one, was this:—"They may have a place among themselves to receive and lodge the poor strangers (foreigners) passing and travelling, which have not means to resort to the inns." They were to pay no more taxes than the native English inhabiting the said city of Canterbury.

The place granted for their worship was the undercroft of our ancient and magnificent Cathedral church, and this undercroft has continued to be so used since the beginning of the reign of Elizabeth till now, when a few remnants of the foreign flock yet make use of the same service and prayers as their ancestors.

The original number of immigrants in Elizabeth's reign was rapidly increased by more and more persecutions on the Continent. At Canterbury they continued to make silks, bayes, stamels, light stuffs, buttons, &c. &c. At Maidstone, they seem to have betaken themselves, at first, chiefly to thread-making, which, with the planting of hops (and other business it had in common with other Kentish towns), long continued to be a chief trade of that pleasant town. "The making of linen-thread," says the reverend and excellent historian of Maidstone, "was introduced here in the reign of Queen Elizabeth by the Walloons, who, being driven out of their own country by tyranny and oppression, took refuge in England, and set up this beneficial manufacture, in this our town, as they did that of silk at Canterbury, and that of flannel at Sandwich, in this county.

"What number of these people came hither on their first settlement is to me uncertain; but about sixty years later, in the reign of Charles I.,

there appeared to have been about fifty families of them. This trade of thread-making was carried by them to a height, and rendered very advantageous to our town, where it still continues, though it is not so considerable as when those industrious people and their descendants lived here, and had the management of it. . . . However, it is still, in some measure, carried on in Maidstone to good advantage; and though not reckoned exceeding fine, yet, being made of good flax, and dyed of various colours for common uses, it is generally esteemed in London and most parts of England. . . . The Walloon families are now almost worn out; but there has been observed to remain some traces of their names in several who have forgot from whence they came; and the flax spun by our common people for the tradesman is to this day called "Dutch-work!"*

At the restoration of Charles II., when the learned and pious, and yet most facetious divine, Dr. Fuller (who was so full of wit and drollery, that they were always running over and inundating his page, whatever might be his subject), first published his 'British Worthies,' the manufacture of Maidstone thread was of good account. He says, "My author (Hartlib) telleth me that thread is only made (out of London) at Maidstone, where wellnigh a hundred hands are employed about it. I believe a thousand might be occupied in the same work; and many idle women, who now only spin *street-thread* (going tattling about with tales), might procure, if set at work, a comfortable livelihood thereby." Fuller also notices that, in his day, Kent grew a good deal of madder, for dying reds and violets; observing, that as there is a good deal of wild madder in the county, and as Kent is not so cold as Zealand, where great quantities were cultivated for exportation, there was no reason why the Kentish farmer should not profitably grow the root. He says, "Our Kentish cloth, at the present, keepeth up its credit as high as ever." Under the general name of cloth, Fuller no doubt included some of the manufactures of Canterbury, as well as the sayes, baize, &c., made by the Walloons at Sandwich.

As a devout people, constant in their attendance on Divine worship, and "very godly on the Sabbath-day, as busy on their work in the week days,"† the first care of the refugees was to secure for themselves a proper place of worship. Those of Canterbury, as we have seen, were allowed the undercroft of the Cathedral; those of Maidstone obtained the chancel of the old chapel of St. Faith, where "a minister of the word of God to the Dutch congregation," as he was styled, officiated for many generations. At Sandwich, they had the whole or a part of St. Clement's church. Everywhere they seem to have been exceedingly attentive to the duties of charity to their own poor, and of hospitality to new incomers from the Continent of their own (there persecuted) faith. Some of their Sandwich registers, which have been preserved and recently printed, are full of charitable entries. In 1571, when they were new in the country, and when Sandwich was visited by the plague, their disbursements were very considerable; and we find them succouring a poor sick Italian, and other unprovided strangers. In Canterbury they had a separate house for the entertainment of poor immigrants. To have a right to its hospitality, nothing appears to have been necessary beyond the production of a pass or

* 'The History and Antiquities of Maidstone, from the MS. collection of William Newton, Minister of Wingham, Vicar of Gillingham, &c.' This curious volume, which is now become scarce, was published in 1741, but was written several years before.

† Strype: 'Life of Archbishop Parker,' fol. p. 139.

certificate, signed and sealed by some minister of the Gospel in the foreign town or district from which the poor people came; and without such a pass or certificate, to show that they were Protestants, and people of sober and religious lives, the incomers could not settle among any of these colonists. This last rule continued to be observed until late in the eighteenth century. A gentleman of Canterbury, who himself descends from one of the families of foreign Protestants, has placed in our hands a certificate which bears the date of A.D. 1776. Were it only for its quaintness and primitive simplicity, this now rare document must be held interesting, and worthy of insertion. We translate it, *verbatim et literatim*, from the original French:—

“We the undersigned certify that Pierre Joseph Mehay, of Warlincourt in the pass of Artois, has sojourned among us from time to time, making professions of our holy religion, frequenting our holy meetings, and partaking in the Sacrament of our Lord's Supper, without having committed any action worthy of reproach, that hath come to our knowledge. This is why we recommend him to the grace of God, and to the protection of our brethren. Done at Tournay, in Consistory, this 15th September 1776.

“The Conductors of the Walloon Church of the

City and Garrison of Tournay, and for all.

(Signed) “DU LIGNON, Pastor.”

Besides an imprint of a local seal, representing a tower, and bearing the motto “Domine Supra Rupen,” the certificate has five other seals impressed on wax, which appear all to have been added in England, and indeed at Canterbury.

THE POULPE.



CONTAINING but a single Order, the first Class of Molluscous animals is composed of those whose mantle forms a sort of fleshy bag, varying in

shape, which contains the viscera. It is surmounted by a large head, flattened at the top into a sort of disk, in the centre of which is a beak almost exactly resembling in form, texture, and action, that of a Parrot, save that the upper mandible shuts into the lower. On each side of the head is a large and complex eye, covered by the common skin, which there becomes perfectly transparent, and by a fold, forms eyelids for its protection. Around the edge of the disk, between the beak and the eyes, are eight or more fleshy arms, usually of great length, tapering to a point; they are very flexible, but of great muscular power, and their under surface is furnished with many suckers of curious construction. Each sucker may be compared to a most perfect cupping-glass, consisting of a circular muscular cup, whose concave surface has in its centre an aperture leading into a cavity; a piston accurately fits the orifice, which may be withdrawn by muscular force. The animal, then, in throwing out its long flexible arms, brings one of them into contact with its prey: the instant the concave surface of but a single sucker is applied, the piston is withdrawn, and a vacuum is created, and by the atmospheric pressure without, the sucker adheres with astonishing force. But, as the suckers are numerous and close, many are made to adhere at one moment; the arm is swiftly twined round the object, and the other arms being likewise applied to it, it is easier to tear asunder the muscular fibres of the limb than to loosen the fearful and often fatal embrace. With all this adhesive power, which is very strong even after death, the animal can in an instant loose its grasp, and retire in case of danger, by simply pushing forward the piston and filling the vacuum. The power with which these arms are endowed, and the strength of the sharp and horny beak, render the *Cephalopoda* truly formidable opponents, especially as they are carnivorous, and their courage and cunning are equal to their rapacity.

Notwithstanding the absence of any fin-like expansion of the sac, it appears that the Poulpe has the power of swimming with considerable rapidity by working its long arms, and especially by flapping the membranous disk formed by the union of their bases. Yet its more usual mode of progression appears to be by crawling upon its fleshy arms, either at the bottom, or among the rocks of the coast, in the recesses of which it lies in wait for its prey. Crabs, Lobsters, and other *Rustacea* are thus seized, and dragged to the crooked beak, against whose ruthless gripe their shell affords a very insufficient protection. When enraged, it appears the Poulpe will not scruple to attack man himself, and proves on such occasions a most formidable adversary. Mr. Beale has described an encounter which he had with a Cephalopod, probably of this genus, while occupied in searching for shells among the rocks of the Bonin Islands. He was much astonished at seeing at his feet a most extraordinary-looking animal, crawling towards the surf, which it had only just left. It was creeping on its eight legs, which, from their soft and flexible nature, bent considerably under the weight of its body, so that it was lifted by the efforts of its tentacula only a small distance from the rocks. It appeared much alarmed at seeing him, and made every effort to escape. Mr. Beale endeavoured to stop it by pressing on one of its legs with his foot; but, although he used considerable force for that purpose, its strength was so great that it several times liberated its member in spite of all the efforts he could employ on the wet and slippery rocks. He then laid hold on one of the tentacles with his hand, and held it firmly, so that it appeared as if the limb would be torn asunder by the united efforts of himself and the creature. He then gave it a powerful

jerk, wishing to disengage it from the rocks to which it clung so forcibly by its suckers. This effort it effectually resisted; but, the moment after, the apparently enraged animal lifted its head with its large projecting eyes, and loosening its hold of the rocks, suddenly sprang upon Mr. Beale's arm (which he had previously bared to the shoulder for the purpose of thrusting it into holes in the rocks after shells), and clung to it by means of its suckers with great power, endeavouring to get its beak, which could now be seen between the roots of its arms, in a position to bite. A sensation of horror pervaded his whole frame, when he found that this monstrous animal had fixed itself so firmly on his arm. He describes its cold slimy grasp as extremely sickening; and he loudly called to the captain, who was similarly engaged at some distance, to come and release him from his disgusting assailant. The captain quickly came; and taking him down to the boat, during which time Mr. Beale was employed in keeping the beak of the *Octopus* away from his hand, soon released him by destroying his tormentor with the boat-knife, when he disengaged it by portions at a time. This Cephalopod measured across its expanded arms about four feet, while its body was not bigger than a man's fist. The species is usually called by the whalers the Rock Squid.*

GALILEO GALILEI, OR THE ASTRONOMER OF PADUA.—No. II.

GALILEO's first telescope was no sooner completed than he took it with him to Venice, where for a whole month his time was employed in exhibiting his instrument to the principal inhabitants, who thronged the house to take a peep through it, which seemed almost to them like taking a visit to another world. At the end of that time the Doge caused it to be intimated that such a present would not be deemed unacceptable by the senate. Galileo took the hint, and was rewarded for his complaisance by a nomination for life to his professorship at Padua, his salary being doubled.

About the same time this indefatigable philosopher discovered the microscope.

"My dear Beatrice," said Novelli, one day entering his daughter's apartment, "I have to tell you of a most wonderful discovery made by Signor Galileo. You know the first use to which he turned his double eye-glass was to examine the irregularities on the surface of the moon, which he conceives to be mountains. He then directed his attention to Jupiter, and to his great joy he has discovered four moons, or satellites, revolving round that beautiful planet!"

"Oh, papa, is it possible?" exclaimed Beatrice.

"You may well be astonished, my child. I cannot describe to you the extraordinary sensation this discovery has produced. Many doubt, and many positively refuse to believe it, whilst all are struck with the utmost wonder, either at the new and sublime view of the universe thus opened to them, or at the daring audacity of Galileo in inventing such fables."

"Fables! oh, papa! he is truth itself! How I wish I could have a peep through his double eye-glass."

"He invites you, Beatrice, to do so. He would have you see and admire the wonders of creation, and acknowledge, at the same time, the happy results of persevering study."

* Hist. of the Sperm Whale.

"How good-natured of him ! and how wonderful it seems that he can discover by his instrument what goes on amongst those glittering stars ! It is a beautiful evening ; let us go to the observatory at once, dear papa."

They went ; and after a long gaze through the wonderful "double eyeglass," during which she received many explanations from the kind professor of what she beheld, the astonished and gratified Beatrice returned home, humbled at thinking how little she knew of the glorious works of creation, and inwardly resolving that from henceforth she would apply more diligently to the study of them.

On the discovery of Jupiter's satellites, the astronomer, Kepler, wrote thus to his friend :—

"I was sitting idle at home, thinking of you, most excellent Galileo, and your letters, when Wachenfels stopped his carriage at my door to tell me the news that by the help of your double eyeglass you had discovered four new planets ; and such was my wonder when I heard it, such my agitation at seeing an old dispute between us decided in this way, that what with his joy, my surprise, and the laughter of both, we were for some time unable, he to speak, or I to listen."

But while Kepler rejoiced, others were very angry. Some argued that the discovery was contrary to Scripture, as it would make the planetary bodies more than seven in number, and seven was the emblem of perfection. Others said that as there were seven windows given to animals in the domicile of the head, namely, two eyes, two ears, two nostrils, and one mouth, to enlighten, to warm, and to nourish the body, so there could be but seven planets in the heavens ; others said that the telescope, though true for the earth, represented celestial objects falsely ; while some contented themselves simply with the assertion that the planets were *not* there ; and could not be.

"Oh, my dear Kepler," wrote Galileo, "how I wish we could have one hearty laugh together ! Here is the principal professor of philosophy in Padua, whom I have repeatedly and urgently requested to look at the moon and planets through my glass, and yet he pertinaciously refuses to do so ! Why are you not here ? what shouts of laughter we should have at this glorious folly ! and then to hear the professor of philosophy at Pisa, labouring before the Grand Duke with logical arguments, as if with magical incantations, to charm the new planets out of the sky !"

The intense interest which the discovery of Jupiter's satellites inspired, created for Galileo friends as well as enemies. The Grand Duke of Tuscany, after several times examining the new planets through his telescope, begged the instrument of him, that he might lay it up in the museum at Florence, amongst other rare and precious curiosities. Galileo presented it to him, and received from the Grand Duke in return a present worth more than a thousand florins, and an earnest entreaty that he would attach himself to his service and reside in Florence, with the title of Philosopher and Principal Mathematician to his Highness. As he found he should have no duties to perform, and consequently leisure to complete the treatises he was writing, Galileo accepted the proposal.

You may believe that Novelli and his daughter Beatrice were very sorry when the talented and amiable professor left Padua. They had had many interesting and instructive conversations together, and the mind of Beatrice had gradually opened to the delight of acquiring knowledge. It was one of her greatest treats to sit by her father's side in the shady alcove, and listen to his discourse with the astronomer. Sometimes they would converse

on one subject, sometimes on another, but all was improving ; and Beatrice ever learned something in those pleasant evenings to raise her thoughts and do her good.

One day her father having spoken of the instruments which the philosopher had invented, Galileo observed, "Soon after I had first used them, I was struck with the thought that while the telescope speaks to us of the unnumbered worlds which engage the attention of the Almighty, and causes us to feel our own nothingness, while we contemplate His majesty, and power, and wisdom, the microscope, by revealing the myriads of tiny insects formed with such wonderful skill and rejoicing in His providential goodness and watchful care, tells us of His love and tender mercy. The glorious orbs above, and the smallest insects at our feet, are alike dependent on Him."

"Most true," replied Novelli ; "our minds may well be filled with awe and reverence when gazing on the starry firmament. You have made great discoveries, excellent Galileo, but perchance there is still much to learn concerning that spangled sky."

"Most undoubtedly there is, my friend. We are yet very ignorant of the heavenly mechanism. How great and common an error is the mistake of those who persist in making their knowledge and apprehension the measure of the apprehension and knowledge of God ; as if that alone were perfect, which they understand to be so ! If one of our most celebrated architects had had to distribute this vast multitude of fixed stars through the great vault of heaven, I believe he would have disposed them with beautiful arrangements of squares, hexagons, and octagons ; he would have dispersed the larger ones among the middle-sized and the less, so as to correspond exactly with each other ; and then he would think he had contrived admirable proportions ; but God, on the contrary, has shaken them out from His hand as if by chance ; and we, forsooth, must think that He has scattered them up yonder without any regularity, symmetry, or elegance !"

There was a pause of some minutes, during which all gazed intently at the deep blue vault above them, glittering with a thousand stars, and then Novelli exclaimed, "Oh, Signor Galileo ! how far more honourable and praiseworthy it is, with watching and toil, and study, to discover something admirable and new in the vast book which nature holds ever open before those who have eyes to see, than to pass a listless and lazy existence, contented with the knowledge we possess, and leaving the world neither wiser nor better than we found it ! Tell me, Signor—that beautiful moon, which looks to us so smooth and polished, they say you have discovered irregularities on its surface, which you conceive to be mountains ! is it so ?"

"I do imagine it. By the aid of my glass, I can distinctly trace the outlines of mountains and other inequalities in the moon ; though my opponents say I am utterly mistaken, and that I take delight in distorting and ruining the fairest works of nature. One, however, constrained to allow the evidence of these inequalities, asserts that every part of the moon which to us appears hollow is, in fact, entirely filled up with a clear crystal substance, imperceptible to the senses, but which preserves to the planet her smooth, unalterable surface. "I told him," continued the astronomer, smiling, "that this was an admirable idea, provided only it could be proved ; but I was ready to agree to it, on condition I might be allowed to raise upon his smooth surface, crystal mountains, which nobody can perceive, ten times higher than those which I have actually seen and measured. Since that, I have heard no more of the crystalline theory."

- “And do you indeed believe, Signor Galileo, that the world on which we live revolves round the sun?” asked Beatrice. “The Scriptures do not tell us so.”

“I am inclined to believe, Beatrice,” replied Galileo, “that the intention of the sacred Scriptures is to give to mankind the information necessary for their salvation, and which, surpassing all human knowledge, can by no other means be accredited than by the mouth of the Holy Spirit. But I do not hold it necessary to believe, that the same God who has endowed us with senses, with speech and intellect, intended that we should neglect the use of these. The object of the Scriptures is not to teach us astronomy; expressions are used in the sacred writings as are intelligible to the vulgar belief concerning the structure of the universe; but so little notice is taken of this science, that none of the planets, except the moon and Venus (under the name of Lucifer), are so much as named there. In my own mind, I am convinced, from long and careful observation, that the earth and other planets revolve round the sun as their centre.”

This opinion of Galileo's brought him many enemies. The pope and cardinals did not at all approve of the Copernican system; indeed, they had burned one of its advocates, Bruno, at Rome, in the year 1600. They now threatened Galileo with imprisonment if he persisted in spreading his notions. But one of the most striking features in the character of this great man, was his invincible love of truth, and abhorrence of that spiritual despotism which had so long brooded over Europe. The uncompromising boldness with which he published and supported his opinions, regarding little the power and authority of those who advocated the contrary doctrines, raised against him a host of foes, who united to crush, if possible, so dangerous an innovator. The Jesuits, in particular, were alarmed; they fancied they saw in the spirit of Galileo's writings the same inquisitive temper which they had already found so inconvenient in Martin Luther and his adherents. Their consternation increased every day; for the astronomer drew around him a numerous band of followers, all imbued with the same spirit of inquiry, and his favourite scholars were successful candidates for professorships in many of the most celebrated universities of Italy.

Meantime, his discoveries increased. One day he announced the detection of innumerable stars, invisible to the unassisted sight, in that remarkable cloudy appearance in the heavens, known to us familiarly by the name of “the milky way;”—another, he delighted all his friends, and raised the anger of his foes, by communicating the discovery he had made of the phases of Mercury and Venus. At one time would be circulated the astonishing intelligence that “Signor Galileo had discovered two strange appendages to Saturn” (which, in after years, and by the aid of more powerful telescopes, were found to be his rings), at another, that he had observed dark spots on the body of the sun. His opponents were indignant; they had scarcely time to compound anything like an argument against him and his theories, before they found him in possession of some new fact which they were quite unprepared to meet. All they could do was to heap upon him abuse and contempt.

It would be impossible to tell of all the discoveries in astronomy and philosophy made by this indefatigable and persevering man, or of the many books he wrote concerning them; but his history renders it necessary to speak of one of these publications, which caused a great sensation.

Galileo had received formal notice from the Vatican that he was *not* to teach the Copernican system of astronomy, or in any way to venture to

assert that the earth moved round the sun. But the truth-loving philosopher, convinced that his opinions were correct, could not remain silent on so important a point. Fearing the anger of the pope, if he too boldly expressed his own sentiments after the prohibition he had received, he wrote a book under the title of "Dialogues on the Ptolemaic and Copernican systems," in which, without making his own views very prominent, he leaves his readers to form their own conclusions from the lively remarks of two speakers maintaining the opposite opinions, and a clever friend who draws out the observations on both sides. It was evident, however, which speaker had the best of the argument; and the book was condemned by the Inquisition.

And now Galileo, an aged man of seventy years, and in very infirm health, was brought to Rome to be examined by that dread tribunal. It was an affecting sight to see this venerable sage, clothed in the sackcloth of a repentant criminal, standing before the ignorant and bigoted cardinals and prelates, and compelled to renounce and abjure, as "impious, false, and absurd," the opinions which his whole existence had been consecrated to form and strengthen. The exciting and touching interest of the scene, the awful formality of the proceedings, the black robes and solemn countenances of the judges, and the bending form of the aged prisoner, whose enlightened mind and vigorous intellect soared far above them, trammelled down as they were by ignorance and superstition, afforded another striking proof of the cruelty and bigotry of that intolerant and wicked tribunal. After passing sentence upon Galileo and his book, and solemnly declaring that the theory of the sun being immoveable, and that the earth moved, was an "absurd, false, and heretical" theory, his judges caused him to kneel down before them and take an oath to that effect.

Broken down as he was with age and infirmities, and overawed by the merciless tribunal to whose power he was subjected, and of whose cruel tortures for the refractory he was well aware, it was not without extreme reluctance and pain that the truthful Galileo was compelled thus formally to declare his own life to have been a continued falsehood, and assert his renunciation of those opinions to which he still clung more fondly than ever. But the terrors of the Inquisition could appal the stoutest heart. He knelt, and in the presence of all assembled, declared solemnly "that his past views had been erroneous, absurd, and heretical, that the sun was *not* the centre of the system, and that the earth did *not* move round it; and that he abjured and detested his former errors and heresy."

As he rose from his knees, after making this declaration, he whispered to one of his friends who stood near, "It moves, for all that."

The aged astronomer had, previously to his examination, been kept in strict seclusion in Rome for more than four months: he was now sent to the dungeons of the Inquisition, with orders to perform certain penances at stated intervals. His numerous friends, who felt the deepest sympathy with him, had been most earnest in recommending him to acquiesce in whatever the Inquisitors required him to say; and thus his life was saved. They well knew that even if he adhered to the truth, a tribunal that carried on its inquiries in secret, could at any time put words into the mouths of its victims, and give them to the world as genuine. Copies of Galileo's sentence and abjuration were immediately sent in every direction, and orders given that they should be read publicly in the universities. People were astonished and alarmed; they could not understand how Pope Urban VIII., who had been such a friend to the astronomer, should sanction these pro-

ceedings against him. His opinions, however, had widely spread—though every copy of his book had been burnt at Rome—and the celebrated Pascal wrote to the Jesuits, saying—“It is in vain that you have procured against Galileo a decree from Rome condemning his opinion of the earth’s motion. Assuredly that will never prove it to be at rest; and if we have unerring observations proving that it does turn round, not all mankind together can keep it from turning, or themselves from turning with it.”

While the philosopher remained in his dungeon cell, an officer of the Inquisition entering one day questioned him as to his belief in a Supreme Being. Galileo replied, pointing to a straw on the floor of his dungeon, “From the structure of that object alone can I infer with certainty the existence of an intelligent Creator.”

The remaining nine years of Galileo’s life were years of pain and humiliation. He was ordered to reside in seclusion at his villa of Arcetri, near Florence. Here he gave himself up to his philosophical studies, but suffered from constant indisposition and pain. At first his friends were allowed to visit him, and he much prized this privilege, and charmed every one by his varied powers of conversation; but latterly even this favour was denied him. Celebrated foreigners, who had heard in other lands of the fame of the Paduan astronomer, bent their steps to the villa at Arcetri.

“Sacred be
His villa; justly was it called the Gem!
Sacred the lawn, where many a cypress threw
Its length of shadow, while he watched the stars.”

But a still more terrible calamity than imprisonment overshadowed the declining years of this illustrious man. He became totally blind! Few can bear unmoved the loss of the invaluable blessing of sight; with what peculiar and terrible severity then must it have fallen on Galileo! On him who had declared he would never cease to use the senses which God had given him, in showing forth the glory of His works, and the business of whose life had been the splendid fulfilment of that undertaking! He bore this calamity with wonderful patience and resignation, expressing himself thus to one who loved him:—

“Alas! your dear friend and servant Galileo has become totally and irreparably blind; so that this heaven, this earth, this universe, which with wonderful observations I had enlarged a hundred and a thousand times beyond the belief of bygone ages, henceforth for me is shrunk into the narrow space which I myself fill in it.—So it pleases God; it shall therefore please me also.”

“The noblest eye is darkened,” said one of his friends, “which nature ever made; an eye so privileged, and gifted with such rare qualities, that it may with truth be said to have seen more than all of those who are gone, and to have opened the eyes of all who are to come.”

It was truly a heavy calamity for such a man! The intelligent eye which night after night, in many a midnight watch, had scanned the starry firmament, was now for ever dim! No more could he explore the wonders of the heavens, or search out the laws which govern the planetary host; no more could he admire the glorious works of nature, which had been to him such a constant source of delight! The beautiful scenes around him, the blue sky, the flowers, the sparkling waterfalls, his very books, were closed to him for ever! The light was quenched.

As long as power was left him, he had unceasingly pursued his astro-

nomical observations. Just before his sight began to fail, he had observed a new phenomenon in the moon, now known by the name of the moon's libration, which closes the long list of his discoveries in the heavens. And now, an aged man, blind, afflicted, persecuted, and a prisoner, Galileo waited his dismissal.

He was seated one evening under his favourite tree on the verdant lawn, when a stranger, a young man of pleasing appearance, desired to be introduced to him. Galileo received him courteously, placed him by his side, and entered into conversation with him. Though he saw not the noble and intelligent countenance of the interesting stranger, yet the philosopher felt he was conversing with a man of genius and intellect, and delighted with his companion, he for a time forgot his sorrows. The young foreigner was equally charmed with his host, and much sweet and pleasant discourse they had together. On various subjects they conversed, and on all felt that they were kindred spirits. The stranger youth never forgot that evening; and when, returned to his English home, he, in after years, gave forth to the world that sublime and noble production, the 'Paradise Lost,' it was found to contain many beautiful allusions to Galileo and his astronomy.

Ah! little did John Milton think, when conversing with the sightless Galileo, that he himself was about to suffer from the same terrible calamity!

Such were the closing days in the life of this profound philosopher and searcher after truth! Science justly regards him as one of her most valued sons; and as century succeeds century, the importance of his discoveries becomes more and more apparent.

In the church of Santa Croce at Florence, lie the remains of Michael Angelo, and "The Starry Galileo."

SONNET.

My love is strengthen'd, though more weak in seeming;
 I love not less, though less the show appear;
 That love is merchandized, whose rich esteeming
 The owner's tongue doth publish everywhere.
 Our love was new, and then but in the spring,
 When I was wont to greet it with my lays;
 A Philomel in summer's front doth sing
 And stops his pipe in growth of riper days:
 Not that the summer is less pleasant now,
 Than when her mournful hymns did hush the night;
 But that wild music burdens every bough,
 And sweets grown common lose their dear delight;
 Therefore, like her, I sometimes hold my tongue,
 Because I would not dull you with my song.

SHAKESPEARE.

FORTUNE.

FORTUNE, men say, doth give too much to many,
 But yet she never gave enough to any.

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PLYMOUTH.



Among the wild hills and wastes of Dartmoor is the source of an inconsiderable stream, which, after trickling through moss-covered blocks of granite, and after being augmented by a few brooks of no more importance than itself, winds through a valley known to the lovers of the picturesque by the name of Beckleigh Vale, and passing near the ancient and once important Priory of Plympton, becomes navigable where its waters mingle with the sea. Here it receives the name of Laira, and widening in front of Saltram Park, the residence of the Earl of Morley, is the closing object of interest

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presented to the traveller by railway, before he arrives at the last town in the west connected with the metropolis by the parallel bars of iron, which form one of the distinctive features of the present age. Soon contracting again and becoming deeper, it takes the name of Catwater, and affords anchorage to merchantmen of heavy burthen, being, in fact, the mercantile port of Plymouth, the town which stretches away to the west from its right bank.

Many miles to the west of the sources of the Plym, among the bleak moorlands of Cornwall, the Tamar has its rise, a rise somewhat similar to the Plym during the early part of its course, but far more important, inasmuch as it is navigable twenty-five miles from the sea. At and near low water it is at this point a sluggish stream, lined by banks of unsightly mud; but when it is filled by the rising tide, perhaps no river in England can vie with it in beauty. At the part where the sea-water meets the fresh, a weir has been constructed with a trap for catching salmon. Above is a peaceful valley, with the most delightful accompaniments of English scenery, meadows, hedgerows, and cottages. Two or three miles below, the river winds at the base of perpendicular cliffs, clothed with oaks and mountain ashes, between which peep out masses of rock, untouched save by the chisel of time, and dignified with the primeval adornments of moss and lichen. Sloping uplands, crowned by villages; undulating woods, through which rises some ancient castle or manorial residence; villages nestling among trees, with now and then a rude quay for the convenience of loading and unloading barges and market-boats; church towers, not as in great cities blackened with smoke, but wearing the same livery as the rocks from which their materials were hewn—all these succeed each other in continual variety. Still lower down, the villages assume more of the appearance of little towns, the river widens and receives several tributaries of the same character with itself, some bringing the water of the Devonshire and some of the Cornish hills.

As yet little traffic has been seen: boats containing happy parties bent on a day's enjoyment; barges laden with lime or manure, or returning freighted with wood; colliers, and perhaps a small steamer—are the only vessels which float on the upper waters of the Tamar: but when the river widens, a totally different scene presents itself. Here rides at anchor, as in an inland lake, beyond the influence of any commotion which may rage in the British Channel, and protected by surrounding uplands from the violence of every wind, a large portion of the English navy. This part of the river is called Hamoaze; river it ought not to be called, for fifty times the volume of water brought down by the Tamar might be withdrawn from it without making any perceptible difference. On the right bank of Hamoaze stands the little town of Torpoint in Cornwall, and on the left the populous town of Devonport. The scarcity of ships anchored in Hamoaze is mainly owing to some high land (Mount Edgcumbe) projecting from the Cornish shore blocking up direct communication with the sea, but leaving a somewhat narrow but deep outlet between itself and the cliffs which extend from Plymouth. This outlet may be considered the mouth of Hamoaze, but it is still several miles distant from the open sea. A range of low cliffs stretches to the east as far as Catwater, which, as well as Hamoaze, has its embouchure in a broad estuary named the Sound, a noble sheet of blue water, which has for its southern boundary the cliffs just mentioned; while to the west, the high lands of Mount Edgcumbe, and on the east, Staddon Heights, give to the Sound the figure of an irregular oblong, open only

towards the south. It is not easy to convey an adequate idea of a locality so intersected by arms of the sea as the district we have been considering; but by the help of an ordinary county map the reader will have no difficulty in realizing the main features of our description, or in conceiving with sufficient accuracy the position of the localities we are about to describe.

On the right bank of the Plym, and on the eastern side of the promontory formed by that river and the Tamar, is Plymouth, a place of considerable antiquity, having been called, in the time of the Saxons, Tameorwerth. After the Conquest it acquired the name of Sutton (a corruption of south-town), and received its present appellation in the reign of Henry VI. No particular mention of it occurs in history until the reign of Edward II., when great disputes arose between the Prior of Plympton and the king, respecting certain rights and immunities claimed by the former over this part of his jurisdiction. In the year 1339 it had increased so much in prosperity that it became an object of jealousy to the French, who landed here and endeavoured to destroy the town by fire, but were repulsed with the loss of five hundred men by Hugh Courtney Earl of Devon. In a second attempt, made in the sixth year of Henry IV., the French were more successful. They landed near the part called Briton's-side, and before any effectual resistance could be made, burnt upwards of six hundred houses; but failing in their attempt to destroy the castle and higher part of the town, retired to their ships, and proceeded to Dartmouth, where De Castele, and several hundred men, were made prisoners. From the time of this occurrence till the reign of Henry VI., the town dwindled to a mere fishing village, but it was then improved by the Prior of Plympton; the population increased; trade revived; and its capacious port was again frequented by merchant and other vessels.

As a rendezvous for the British navy the advantages of Plymouth were recognised at an early period. From this port Edward the Black Prince, after having been detained forty days by adverse winds, sailed in 1355, to gain the famous battle of Poitiers, and to the same port he returned two years afterwards with his royal prisoners. Some of our greatest navigators also sailed from hence, on those no less perilous but far more beneficial enterprises, which opened to their countrymen a market for their commerce in all parts of the globe: Drake, Frobisher, Cavendish, Cook, Wallis, and others, having made Plymouth their point of departure.

At the period of the expected invasion by the Spanish Armada, in the year 1588, a British fleet of 120 sail were assembled in Plymouth Sound, under the command of Lord Howard and Admirals Drake and Hawkins. This fleet sailed for Torbay to join the Exeter ships, and soon afterwards, on the Sunday following St. James's Day, the Grand Spanish Armada, which Papal arrogance had pronounced "Invincible," appeared off the coast and lay to in the form of a crescent. During the whole of Sunday and the succeeding day, this unwieldy armament continued in sight from the heights around the town; but afterwards proceeding to the eastward, it was furiously assailed by the British fleet; and the destruction thus commenced being completed by a violent storm, the entire expedition was frustrated.

In the year 1625, Charles I., with his whole court, came from Portsmouth, and remained here for ten days with 120 sail and 6000 troops. Subsequently, on the occasion of the dissensions between that monarch and the Parliament, Plymouth early declared for the latter; and the year 1643 forms a memorable era in the annals of its history, from the spirited resistance made by the inhabitants against the forces of Prince Maurice, who

besieged it from September till the close of the year without success. The remains of various works constructed both for the defence and reduction of the town, may be still traced on its different sides. In a tract printed in the following year, giving an account of the siege, a remarkable incident is recorded: "One remarkable passage of God's providence to us, we must with thankfulness relate, remember, and acknowledge that, after the town had been a long time besieged strictly, and no fresh victuals, either fish or flesh, could be had, whereby the poor people were grievously punished, there came an infinite multitude of pilchards into the harbour within the barbican, which the people took up with great ease in baskets; which did not only refresh them for the present, but a great deal more were taken, preserved, and salted, whereby the poor got much money; such a passage has not happened before."

After Essex had imprudently marched into Cornwall in pursuit of Sir Richard Grenville, having a superior army of Royalists in his rear, the king determined to follow him; and having, by forced marches, arrived in the vicinity of Plym, he halted a few days to refresh his soldiers. During his residence at Widey, a few miles from the town, where he had established his head-quarters, he issued a proclamation addressed to the Plymouthians, in which he commanded them, on their allegiance, to give up the town to him. The summons was disregarded, and an attack being consequently expected, the troops began to repair the works which the previous siege had left in a ruinous state, and being assisted by the women and even children, proceeded in their labour with such rapidity, that in a few days they were in as complete a state of defence as before the siege. On several days, the king, with his body-guard of cavalry and trumpets, advanced to the head of Townsend-hill, north of the town, and were constantly received by a brisk fire of cannon from the whole line on that side; so that after a short time they as regularly retired. On the return of the king from Cornwall, after the discomfiture of Essex's army, he dislodged a party of the garrison of Plymouth from Plympton, whether they had advanced to obtain plunder and provisions, and proceeded eastward, leaving Sir Richard Grenville to besiege the town a second time, but he, too, after an ineffectual blockade of some weeks, drew off his forces.

Plymouth is not at present a fortified town, though protected on the sea-side by several strong batteries. The citadel, especially, is an extensive work containing a barrack, magazine, and chapel. The river from the parapet is very fine, commanding part of the Laira, Catwater, the Sound, Mount Edgcumbe, the mouth of the Tamar, and other objects of interest. It was constructed in the reign of Charles II., in the years 1670 and 1671.

The most striking incident in modern history connected with the port of Plymouth is the following:—

On the 15th of July 1815, the ex-Emperor, Napoleon Buonaparte, left Rochefort and went on board the English frigate 'Bellerophon,' which arrived at Torbay on the 24th, and on the afternoon of the 26th anchored in Plymouth Sound. Here the fallen despot first learnt that if the English were "the most generous of his enemies," on their generosity he, at least, had no claim. Soon after his arrival, two frigates stood out from the roadstead, and anchored one on each side of the 'Bellerophon.' Rumours had reached the ship that a more secure destination than Elba had been decided on. The Tower of London was mentioned, and the remote island of St. Helena. The newspapers gave an account of the measures in contemplation, but nothing official appeared. For several days the illustrious

captive was kept in a state of uncertainty and suspense. Meanwhile his arrival in England had produced an extraordinary sensation. All the country seemed hurrying towards Plymouth; people were stopped on the road for want of post horses. The Sound was covered with an immense number of boats for which enormous prices were given. It was known that the Emperor always appeared on deck towards five in the afternoon. A short time before this hour, all the boats collected alongside of each other; there were thousands, and so close together that the water could no longer be seen for them. The people looked more like a multitude assembled in a public square than anything else. When the Emperor came out, the noise and gestures of so many people had a most striking effect. It was evident, however, that nothing hostile was meant; and that if curiosity had brought them, they felt interested on going away. A report had been in circulation for two days that an Under-Secretary of State was coming from London officially to notify the final resolution of the English ministers with respect to the Emperor. Accordingly, on the 30th, the messenger appeared; it was Sir Charles Banbury. He came on board, accompanied by Lord Keith, and delivered a despatch, authorizing the removal of the Emperor, or as he was styled, General Buonaparte, to St. Helena; and limiting the number of persons who were to accompany him. Although this sentence had been expected, it deeply affected those whom it concerned. Napoleon, however, did not fail to appear on deck as usual, with the same countenance as before, and tranquilly surveyed the crowds which seemed more eager than ever to see him. Orders had arrived on the night of the 3rd for the 'Bellerophon' to sail on the 3rd of August. As she was too old for the voyage, she stood to the eastward on leaving the Sound, and on the 6th met the 'Northumberland,' with two frigates full of troops, which were to compose the garrison of St. Helena. The three ships came to an anchor close by them, and on the 7th he was transposed to his new abode, and soon after, the 'Northumberland,' with its unusual freight, was under sail for St. Helena.

The town of Plymouth, though now one of the most important in the west of England, bears evident marks of a humble origin. The houses in the older part are badly built, and the streets narrow. Proximity to the sea was clearly the main point of consideration to a population composed principally of fishermen and sailors. Of late years, merchants and traders of the highest class have been numbered among the inhabitants. The beauty of the scenery, and the salubrity of the climate, have attracted numbers of gentry: a railway has connected it with London, and brought it nearer the grand centre of civilization. Consequently, during the last fifty years the houses have been built in better style; the new streets are wide, and many terraces have been erected, little suited for the original inhabitants, but commanding beautiful prospects of the surrounding scenery.

The principal feature of Plymouth is the Hoe, a public walk, which is scarcely surpassed by any other in Great Britain. The town itself principally occupies the low and moderately-elevated ground, which stretches from Catwater towards Hamoaze; but between it and the sea is an elevated piece of table land, bearing the above name, the view from which is, in fine weather, little short of enchanting. The spectator, turning his back to the sea, has before him the whole of the town, occupying a hollow, and partly covering the opposite upland, and in the extreme distance rise the Dartmoor hills, purple, or blue, or gray, or white with snow, according to the season and state of the air. Turning, with his face towards the east, his eye falls

on the *Laira*, resembling an inland lake, the precipitous quarries of Catdoun and Oreston, and rapidly glancing from Staddon Heights with the picturesque town of Mount Batten, once a fortress, now only a landmark, at its base, joyously rests on the Sound. A boundless expanse of blue water is always a glorious sight, whether the foreground be nothing but the bulwarks which keep out the surging tide or the edge of a pebbly beach. The sea, perhaps, never originates such solemn thoughts as when no land is in sight, and where not even a distant sail suggests an acknowledgment by the mind that the world has any other inhabitants besides the crew and passengers of the adventurous ship, which, still moving on, is still the centre of the watery circle. But allowing that such a survey of the ocean is more solemn, there is some of that happiness not unmixed with sadness which every beautiful prospect creates in the mind of a lover of nature in contemplating scenery, where the objects of sight are varied, and where other creations of God, and even works of man (provided they be not deformities), enter into the range of sight. Of this latter kind is the view from the Hoe. The Sound itself is a deep bay of blue water; the ground on which we are standing slopes down to nearly the water's edge; it is a greensward, but intersected by numerous paths, and having seats at intervals, none of them picturesque, but pardonable, nay, desirable, from the comfort they afford to the happy children who chase each other up and down the slopes, and to those weather-beaten mariners who sailed with Collingwood or fought with Nelson, and are now nursing themselves in sight of the element which once bore them so bravely on its bosom.

About three or four miles from shore—though, if you are unaccustomed to judge of the distance of objects at sea, you would scarcely think it a mile—a dark, nearly straight line stretches across the bay, detached from the land at both extremities, and having at one end a lighthouse, at the other a post surmounted by a ball. This is the famous breakwater, to which vessels riding at anchor in the Sound are in stormy weather indebted for their security. Such a mere thread it seems, that you can scarcely believe it strong enough to resist the fury of the waves itself, much less to afford shelter to a man-of-war, with its hundred guns and eight hundred men. Once set foot on it, however, and no misgiving as to its capabilities remain; the only wonder is that the boldness of man could ever have devised and his patient skill executed so stupendous a work. Figures afford but dry reading, yet, as it is impossible to convey an adequate idea of this great national work without them, we must crave our readers' indulgence for a few seconds.

On the 12th of April 1812, a large block of stone was with much solemnity thrown overboard in fifty feet water, as the foundation of a sea-wall which should stretch for a mile across the central part of Plymouth Sound, and shelter vessels which might anchor inside, from the violence of south-westerly winds. Day after day, for ten months, the process was many times repeated, without apparent result. At the expiration of a year, sixteen thousand tons had been thus cast into the water, and at length the work began to come to light, some stones appearing here and there above the surface of the water. No less than six millions of tons have since been added, and the work is for all practical purposes completed. The breakwater is now a huge wall, five thousand feet long, from eighty to one hundred and twenty yards broad at the base, having on its summit a horizontal terrace sixteen yards wide, from the outside of which a smooth slope is conducted with massive well-jointed blocks of stone, at an angle

which is calculated to offer the least resistance to the mighty billows which occasionally assail it. In fine weather it is the most delightful promenade that can be conceived; but when there is a smart breeze from the south or south-west, the white waves dash wildly over it, and, their fury exhausted, fall harmlessly into the calm water within. At the western extremity is a lighthouse; at the eastern, a large hollow ball, to which ladders are attached, intended as a refuge for any unfortunate mariners who may happen to be cast on the breakwater in tempestuous weather. In the month of January 1817, and again in November 1824, its solidity was severely tested. So tremendous were the waves on these occasions that blocks of stone, several tons in weight, were washed away from the outer side and carried across the summit to the inner slope. These storms, though mischievous in one respect, had one good effect—they forced together and consolidated the general mass, and when the whole of the upper part is completed, there is little fear of its being again disturbed.

We were once fishing from a boat in the Sound, but, being either unskilful or unlucky, had but poor sport, and were almost minded to return to land, when suddenly the booming of distant cannon rolled heavily over the water. No hesitation now as to what must be done. The anchor was hauled in, and we made all speed for the breakwater. An experimental squadron was in the Channel, and was doubtless manœuvring in the offing. By the time we had landed (if land that can be called which is but the bottom of the sea raised to the surface) the firing had ceased, the fleet was standing off, all but one noble ship, which had been detached from the squadron, and was evidently making for the Sound. The wind was fresh, and dashing waves were chasing each other up the outer slope of the breakwater, but the vessel was a long way off, and a full half-hour passed before she was near enough to afford us a satisfactory view. On she came, every sail set, right before the wind, rising, plunging, dashing away the foam in merry showers, making for the western end of the breakwater, and showing so close that, as sailors say, "we might have flung a biscuit on board;" so she *seemed*, but, most likely the distance was much greater than we imagined. All quiet on board; when suddenly we heard a long shrill whistle, the boatswain's pipe—not a tune nor even a musical passage, but a distinct modulation—and at once down come the yards, the sails are flapping in the breeze, innumerable legs and arms are climbing the rigging. The gallant ship goes on with her own impetus, passes the lighthouse, wears with her head towards the east, and in a few minutes, we are afraid to say how few, is at anchor in perfectly smooth water, the legs and arms all gone, the sails tucked away or spirited away, or at all events invisible, and Her Majesty's ship ——— resting as motionless as the mimic frigate on Virginia Water on a calm summer's day.

But we forget that we are now enjoying the prospect from the Hoe. The high land on the Cornish side of the Sound is Mount Edgcumbe, crowned with lofty firs, and wooded down to the water's edge with trees of all kinds. Near its extremity, and almost in a line with the breakwater, are the fortifications recently constructed to protect the important towns within from invasion. Opposite the eastern arm of the breakwater are corresponding fortifications, both evidently planted to command the passages between the breakwater and the land on either side. Beyond Mount Edgcumbe the sea widens, forming Cawsand Bay, with the little fishing town bearing that name at its extremity. Penlee Point and the Ram Head project beyond; and on a clear day, a sharp eye can detect, in the

verge of the horizon, the famous Eddystone Lighthouse. Nearer home, to the right, is St. Nicholas, or Drake's Island, crowned by barracks and batteries, and almost connected at low water with Mount Edgcumbe by a ridge of rocks called the "Bridge." Still further to the right are seen the new victualling office at Devil's Point, the town of Devonport, and the high lands stretching away into Cornwall.

This beautiful scene is constantly being varied and enlivened by vessels of all descriptions and sizes; English, and sometimes foreign, men-of-war, merchantmen from all parts of the globe, emigrant ships bound for Australia, steam-packets, pleasure yachts, fishing boats, barges, and numerous smaller craft conveying parties from point to point, or taking passengers to and from their several vessels.

From Staddon Heights a yet more extensive prospect may be gained. So much more elevated are they than the Hoe, that we have stood on the summit to watch the sun sink into the western wave, and heard the sunset gun fired from Plymouth citadel, while the whole of his disk was above the horizon. From this point all the scenery we have been describing may be looked down upon as if drawn in a map, as well as Devonport, Hamoaze, and a considerable portion of the Tamar; but these are of sufficient interest to demand a separate notice.

C. A. J.

IT'S OF NO USE.—No. III.

MONTHS and years in their quiet course passed on, and the two families continued to act much as formerly. Miles had a good business, which he increased by diligence and attention, and Martha, though she had still the same complaint to make of him as hitherto, and declared it was of no use saying a word about it, he had done so and would do so as long as he lived, might have been an object of envy to her less happy neighbour, Mrs. Collins, could such an unworthy feeling have entered the heart of one so amiable. If Collins was, at first, too much disposed to love pleasure and drink, this baneful propensity had increased with years, and hence the necessity for the exertions of his wife. On her, indeed, everything of responsibility depended. Early and late she was at her needle, sometimes assisted by a journeyman, sometimes executing nearly the whole of the work herself. Whatever the world suspected, little of the real truth was known. Collins was thought to love his glass, and he was known to join every gay party proposed by his acquaintance, but few troubled themselves beyond this. Jane was the picture of neatness in herself, and her house was as clean as it was possible; but it was a hard task to preserve the appearance she had been accustomed to make, and to wear a cheerful countenance when her heart was sad within her. A steady dependence upon God, alone supported her, and the consciousness that she was at least endeavouring to do her duty.

"My neighbour Miles," she would sometimes say to herself, with a sigh, "says it is of no use to row against the stream, and that I shall never make matters better, do what I will: she may be right, and my heart sometimes tells me she is; but if I give up hope I give up all; if I cease to exert myself, I seal at once my misery. No, I will struggle on, the means are mine in trust, the end is God's."

Collins never troubled himself about what his wife was doing, provided he experienced no inconvenience, or was debarred of nothing on which he

had set his mind. A drunkard is unavoidably a selfish being, for if a love of drink, in the beginning, finds a man with some degree of generous feeling, it quickly destroys it. Collins saw that his wife no longer tasted beer, and he knew too the reason why she did not; but he never drank a drop the less on that account. He could see her fatigued, and could maintain that it was impossible to work hard and have nothing to keep up strength; but whilst she was plying the needle, instead of himself, he never or rarely invited her to taste even of his beer, sparkling and refreshing as it looked, nor to share, in any degree, the comfortable glass of spirits which he pronounced so excellent, and so necessary when a person had been pushed hard all day. He would keep her out of bed too, when rest was very desirable to her, for not one tumbler, nor two, nor even three, were always the limit of his self-indulgence. He would have declared that sitting up was her own fault entirely, that he neither wished for her, nor needed her company; but she properly refused to leave him alone, both, as her absence would allow him to drink more freely, and as it was dangerous, she thought, that he should be the only person out of bed. Collins cared not to rise before breakfast was ready, if he awoke with a headache, but his wife was obliged, at all times, to rise early. She had her household work to perform, the clothes of her family to attend to; and it required good management so to arrange her concerns as not to let one part of her duty interfere with another. Collins saw, and knew all this, but he never spared her any trouble as he might have done: she was ready to work for him, and that was enough. Jane never left the house for the mere purpose of visiting, or for amusement: she seldom saw the outside of the street door but on a Sunday; but Collins very rarely indeed omitted his hour or hour and a half's visit to the Commercial Inn, unless he was at a friend's house, or had some acquaintance at his own; and if any public amusement took place no one was more prompt to avail himself of it than he.

There was nothing in which Collins took a greater delight than in horse-racing—a gratification annually furnished him at Stamford, which was six miles distant from the small town where he resided. It was now the race week. Collins and a neighbour of his, of the name of Simmons, hired, according to custom, a gig between them, intending to set off early in the day. His wife was exceedingly sorry to see him so eager to depart, but she well knew that any interference on her side would be even worse than useless. She had not, therefore, ventured to do more than remind him that unexpected work had come in, and that as the order was for mourning, he would be pressed to finish it in time.

Collins heard her with indifference. "Don't bother me about mourning and work just now," said he; "if I am not at home you are, and that's just as good; you can do as well as I."

Jane reminded him that the work was not cut out, and that she should be afraid to undertake to do it herself, as it was for a customer who was very particular. Collins muttered something impatiently in his teeth, but he went into the shop, and in a few minutes he called aloud:—

"I can't stay to finish the whole, but I have cut out as much as you will get through to-day or to-morrow; so, work away, and a pleasant day to you."

Jane heard him and gave a sigh; the gig, at the same instant, appeared at the door. Collins jumped into it, took the reins from Simmons, cracked the whip, and was out of sight in a few minutes.

As soon as Jane had gone through her other necessary occupations, she entered the shop, and sat down to work. Richard, who dearly loved his mother, and who was now a boy of fourteen years of age, remarkable not only for the amiability of his disposition, but for the excellent understanding he possessed, would frequently join her when she was alone: he would thread her needles, draw out the basting-threads, and cut the tape in readiness for the strings. Sometimes, though very rarely, he would go a little further; he would finish a seam she was sewing, or a collar she was padding, but he shrank from the very idea of working steadily. Mount the shop-board he never would do, and a thimble he would very seldom put on; and if at any time he was induced to use one, it was, in a manner, by stealth, and it was laid aside the instant he thought he was observed.

His mother used no persuasion with him: indeed, she scarcely ever made an observation on the subject, beyond the simple remark, as he handed her his work, that he had done it very nicely. She saw that he would be clever at the business, if he would but take to it, and it was her earnest desire that he might; but she was aware how unwise it was to press the choice upon him, and the danger she should thereby incur of marring her own wishes.

Richard was particularly attentive to his mother this day. He waited upon her, watched her movements, and was really, as she told him, of great use to her.

"You are very thin, mother," said he, looking tenderly at her; "and no wonder, you work too hard, and sit up too late."

"Why, how do you know, Richard?" asked she; "you must be fast asleep when I go to bed."

"I believe I am," replied he; "but I often go and peep in your room, before I get very heavy asleep, to see if you are come to bed: the church clock will strike eleven, and sometimes twelve, before I give over watching, so that I am sure you must sit up very late."

"It does not do me any harm," said his mother; "I am used to it."

"Used to it!" repeated the boy, and his eye flashed; "and isn't it a shame that you should be used to it? I wonder how father could go to the races to-day, and leave you all this to do! I will not treat my wife so when I am married."

"You must not answer for yourself," replied Jane; "years make a great difference in us, and circumstances greater still."

"Years can have made no great difference in you, mother," said Richard, warmly, "unless they have made what was good better still. You never were different from what you are, I am sure; you must have always been kind to others, and less thoughtful of yourself than of anybody else. How my father can do as he does—take his pleasure, enjoy his 'evening comforts,' as he calls them, and never ask you to share either one or other of them with him—I cannot think; it's true, mother,—you must not be angry,—it makes my blood boil within me sometimes; and you are so gentle, you never complain, never."

"Hush! interrupted his mother; "recollect you are speaking of your father, and to that father's wife; you therefore have no right to blame that father openly, nor I to hear that husband blamed."

"Let him act differently, then," replied he; "check us as you may, we boys and girls must see the faults of our parents, and the better we are taught ourselves, the more ready we are to notice what is wrong in others. Our father and mother ought to be the pictures of the books from which

we learn; oh! it is very painful to hear things said at school that we see contradicted at home."

Jane sighed.

"We have all enough to do," said she, "to be careful of our own conduct, without weighing that of others: in some cases, it is our duty to shut our eyes against what our heart condemns."

"Mother," replied Richard, quickly, with some appearance of his constitutional irritability, "you need not attempt to drive me from my point; no father can blind the eyes of a son whom he has educated, and no son, whether it be his duty or not, can close his eyes against his father's faults, particularly if his mother suffers from them. Nay, let me speak; I am not the only son who will tell you that a father who wishes to keep his children's love, yet dreads to lose it, has no one to fear so much as a mother, whose conduct is a reproach to him. They may not speak against him openly, nor talk against him among themselves, but they will feel less and less affection for him as they grow older, and are able to judge for themselves, and something will rise in their hearts which they will not like to own, though they cannot master it."

"I don't understand you," said his mother.

Richard paused, the colour on his cheek deepened, and his eye again flashed. "Mother," said he, firmly, "when once a boy can say—if such a one was not my own father, I should hate him, or (for he saw her turn pale) should take a dislike to him,—the thing is done."

He heaved a deep sigh as he spoke, and Jane turned sick at heart. Neither spoke for some minutes. At length Richard resumed the conversation.

"I wish father had been any other trade than this," said he.

"Why? it is a very good one," replied his mother.

"I should so like to take some of the work off your hands," returned he, "and make it easier for you, I would if—" he checked himself.

"If what?" asked Jane.

"I hate to be called *tailor* by the boys, and all that," said he.

"My dear boy," returned his mother gravely, but in a tender tone of voice, "there is no honest trade that any honest person has need to be ashamed of. All trades that are useful and conscientiously conducted are honourable, and one man is as much a benefactor to society as another, provided he lawfully carries on a necessary occupation, and contributes to the comfort and welfare of the community. So said the good master in whose family I lived, when I told him I had no objection to marry your father, except one: I did not speak it out for I was ashamed."

"And what was it, mother?" asked Richard, eagerly.

"Because he was a tailor," answered she.

"I thought so," said Richard; "but what did Mr. Gordon say?"

"Jane," said he, "it is not the trade that makes the man but the man the trade; if he conducts himself well, call him what you will, he is worthy of the respect of his fellow-citizens. And what folly to despise a trade which is absolutely necessary to decency and comfort! It is a ridiculous prejudice indeed that leads any one to despise an art which is exercised for his own benefit, and which ministers at once to his comfort and his pride,—for who does not like to appear well-dressed in public? A prejudice unworthy to be entertained by those who possess common sense, or the ordinary governing principles of society. And let me tell you, Jane," added Mr. Gordon, "I have good authority on my side for what I say, there was no nation

wiser than the ancient Egyptians, and by them all trades were equally esteemed, and that on the simple ground, that all were beneficial and needful. You can't do better, Jane,' and he gave me one of his kind smiles, 'than follow their example, and for that matter, we too.'"

"Are you sorry that you followed his advice?" asked Richard, raising his eyes to his mother's face.

"There are questions, Richard," replied she, gravely, "that none ought to ask, and which no one ought to answer; questions that we ought not even to put to our own hearts." She paused, a softer expression took possession of her features. "If I had not married your father, I should not have been your mother—you, my son."

Richard saw the tears that trembled in her eyes, and flinging his arms round her, he exclaimed. "Oh! mother I could love anything, be anything, part with anything, so that I might keep you."

It was quite evening when Collins returned from the races. His wife had been some time anxiously expecting him, though too intent upon her work to lose time in looking for him; at length the sound of wheels made her raise her eyes, and she beheld him driving with all the speed the horse was capable of, and coming up "in style," as he called it, to his own door. Simmons took the gig to the inn from which it had been hired. As Collins alighted, Jane heard him desire his friend to remember his promise of returning to spend the evening with him, and to be sure not to forget to engage the gig for the next day. He asked no questions when he came into the house, and Jane saw that his face was flushed and his manner excited.

"Take glasses down to the arbour," said he; "a bottle or two of Bass's ale, and a bottle of gin, and pipes and tobacco. By-the-by I think Simmons likes cigars better."

Jane had risen reluctantly from her work. "There are no cigars in the house," said she.

"Then run across the road to Dixon's and buy some," returned he; "now be as quick as you can, for Simmons will be back in a minute."

Oh the selfishness that the eye of perfect love and disinterested goodness looks down upon! the heartlessness that disgraces the abode where tenderness and consideration should be seen! The heathen may trample on the beings that share his hut, the infidel rule with imperious will over the inmates of his harem, the master scourge the unhappy slave he yet takes to his bosom; but that the Christian husband, uniting in himself the cruelty of each, should so forget the wife of his plighted vows of affection and support, as to consider her only fit to minister to his pleasures, his convenience, or his passions, is a sight monstrous in the eyes of every good man, and must be doubly abhorrent in the estimation of God.

Jane promptly obeyed the order of her husband, and set everything in readiness as he desired, with a heavy heart, indeed, but with neither a reproachful word or look. She ventured only to express a hope that he would not go to the races on the morrow, for without his help it would be impossible for her to get the order completed.

"Nonsense," returned he, "you *must* do without me; you don't know what you can do till you try—or you may get Brown to help you if you like, he'll be glad of a job (this was a man who once worked regularly with Collins, but who had now set up in a small way for himself). I would not omit going to-morrow on any account whatever; it might be of serious consequence to me if I did."

Jane knew not why, but she turned faint at these words; she had no opportunity however of making any reply, as a customer at that moment came in, and before he had departed, Simmons arrived. The arbour in which the two men were now seated was at the bottom of the garden, so that Jane heard nothing of their conversation, but as she took from time to time what her husband called for. She was carrying a bottle of gin at his command, for "she had been stupid enough," he said, "to give them at first almost an empty bottle," when his back being turned towards her as she drew close to the arbour, she overheard him say:—

"It's not that; the loss of five pounds is no such matter; I don't care for the money, but I hate to have my judgment called into question; I have doubled stakes, and to-morrow you'll see."

He turned as he spoke, and perceiving his wife he said not another word, but taking the bottle from her, he thanked her. The civility was the mere effect of a sort of cowardice arising from the fear that she had heard what he was saying. Poor Jane made no reply, and with a sorrowful heart returned to the house and to her work, at which she continued till near midnight, having seen Collins safe in bed.

The next morning the two men prepared to start for Stamford. Collins would have left the house without exchanging a word with his wife, if she had not watched for his passing the door of the shop which led from the entrance. As soon as she heard him she sprang from her seat.

"Oh Collins!" cried she—her courage failed her. Her eyes were already bloodshot from having worked so long and so late, and they were now full of tears.

"Well, what do you want?" said he; "don't keep me here all day—why, what ails the woman?"

Jane had taken hold of his arm, and looking entreatingly into his face, she said in a low voice,

"Pray mind what you are doing, lay no bets—any loss just now would be dreadful to us."

"What do you mean?" said he, shaking her off. "What loss am I likely to incur? Mind your own business, and let me mind mine in peace. It's just like you women, meddling with what you know nothing about."

He spoke with a sneer. He thought, as too many others are apt to think, that in the word *women* he had expressed all that was worthy of contempt—a proof at once of an unregenerate heart and a weak understanding, convicting the speaker of an inferiority which he feels but cannot own. There was nothing very singular in the expression as uttered by Collins, for he often used it. This morning, however, he was very irritable, the consequences of yesterday's excitement and the evening's indulgence. Without another word he darted out of the house. Again the crazy wheels rattled over the stones. Jane heard a shout and laughter from persons in the street, and she closed the door to get rid of the sound.

MEN are born with two eyes, but with one tongue, in order that they should see twice as much as they say. Read, not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse, but to weigh and consider.—BACON.

MEN will more often die for religion, than live for it.

THE FERN TRIBE.—No. III.

IN a former paper we spoke of those British ferns which belong to the family Adiantaceæ, the mark of which is, that their thecæ are "covered by a marginal, or sub-marginal, prolonged or elongate portion of the frond or its superior cuticle." The next family that demands our notice is called Polypodiaceæ, and gathers under its banners the Rock Brakes, the Polypodies, and the Woodsias. Its characteristic is that the thecæ form circular masses, not covered by any indusium. A very large proportion of our British ferns were formerly classed as Polypodiums; but the careful investigation of species into which the botanists of later days have so elaborately entered, has reduced the number to the three genera above named, of which the "Rock brake" (*Allosorus crispus*), called also "Rock parsley," must be the first to be examined.



Fig. 1.—ROCK PARSLEY.

This is very abundant on the mountains and about the lakes in Cumberland and Westmoreland, and is also found occasionally on the Yorkshire and Lancashire mountains; but in southern counties it is wholly unknown. It may be gathered in some parts of Ireland, Wales, and Scotland, but nowhere so abundantly as in the lake country. Our figure represents it as it is seen springing out from the crevices of the dark masses of rock which abound in those districts, and is about half its natural size. The Rock parsley is of a clear vivid green, and shows beautifully as its tufts of mixed lentile and barren fronds hang out on the lichen-clad rocks. It is very peculiar in its appearance, and no one who has once seen it could ever

mistake it for one of a different species; the fronds differ much in their form, the fertile frond (Fig. 1 *a*) being as different from the barren (*b*) as if they were children of a different family.

The root is fibrous, and the fibres, which adhere tenaciously to the place on which it is fixed, are numerous and tough. The rhizoma, which is dark brown, extends horizontally. The rachis is slender, smooth, and of a pale green, and naked about half its length; the fronds are nearly triangular; the barren frond is much varied in different plants, but always crisp-looking and crowded, and the leaflets usually like little oak leaves (Fig. 1 *b*). The leaflets of the fertile frond are rolled up, so as for their margins to completely cover the thecæ (Fig. 1 *c*), which, when it is unrolled, are seen to be perfectly without indusium, and placed in masses at the points of the lateral veins, which, as those veins fork nearly at their summit, makes the masses of thecæ in pairs (Fig. 1 *d*). The Rock parsley is a small and delicate-looking plant, varying from four to eight inches in height; one of its Scotch stations is on Ben Arthur, or "The Cobbler," near Arrochar.

Few plants that are members of the same family can be more dissimilar in aspect than this parsley-like fern, and its congeners, the Polypodies.



Fig. 2.—POLYPODY.

The first of these, the common Polypody (*Polypodium vulgare*), grows everywhere; but common as it is there are few hedge plants which exceed it in beauty, as it rises in bright tufts in almost every imaginable situation. You will not see an old lichen-painted wall or ruin, where the Polypody, with its bright green robe richly set with golden spangles, does not look down on you. If you would gather the sweet clustering primroses in early spring, or the scaly, caterpillar-like young fronds of other ferns, there, clustering on the thin soil which lurks in the old broken trunks of the oaks and elms which once adorned the hedge, hang branches of the "Golden Maiden Hair," as it is called in some counties, and in others "Golden locks." If you see some bright songster warbling to his mate, and suspect that there is a nest in the fine lofty tree beside you, you are sure to see, as you peer up through the unclothed branches, that the beautiful Polypody

has established itself high, high up, and rooted firmly in the soil which has been supplied by decayed mosses and lichens; and if you scale the stony rocks which jut out among the wild hills, there, in summer and in winter, in heat and in cold, is still a rich adornment made by our kindly plant. Now look at our Figure 2. It presents us with a view of its creeping, brown rhizoma, with the roots depending from it, and of two fronds, differently cut; for though this fern is very uniform, it occasionally varies very remarkably. Gerard's description of it is highly graphic and quaint, yet very correct.

"The leaves," he says, "do spring up presently from the roots being cut on both the edges with many deep gashes, even hard to the middle rib; on the upper side they are smooth, on the nether side they are lightly powdered as it were with dusty marks. The root is long, not a finger thick, creeping aslope, on which are seen certaine little buttons like to those pits and dents which appear in the taile of cuttle fishes; this hath in it a certaine sweetnesse with a taste something harsh. This kind of ferne wanteth not only flowers and seeds but stalkes also." Now what Gerard likens to the "pits and dents in cuttle fish" in the roots, seems to have given rise to its name, which is taken from a Greek word, as he says, "taken of the holes of the fishes *Polypi*;" but what our herbalist, who denies the existence of seed in the plant, conceived of those beautiful masses of golden thecæ which adorn its leaves (all of which are fertile), we cannot conceive. Myriads of spores are contained in the manifold thecæ, which cluster together in circular spots, wholly uncovered either by inclusium or leaf, and are to be found at all seasons of the year, for the old frond does not disappear till the young has attained maturity.

The common Polypody was formerly considered to have important medicinal properties, but medical men do not now think much of it. The poor sometimes make a sort of mucilaginous decoction of its fronds, which is supposed good for hooping-cough and some other complaints of children. It is dried for this purpose, and then slowly boiled with coarse raw sugar.

That very elegant little species the Beech fern (*Polypodium phegopteris*) comes next on our list, and this with *P. vulgare*, which we have just examined, and *P. Dryopteris* of which we shall presently speak, are all the species of *Polypodiums* found in Great Britain. Although there are very many exotic species, all these have their thecæ openly in sight on a flattened frond, which is the mark of their branch of the *Polypodiaceæ* family.

The Beech fern is a peculiarly graceful, and also a very well-marked species: why it is called by this name seems very questionable, for it is the special fern of waterfalls, and wholly unconnected with woods. Its roots are black and fibrous (Fig. 3 *d*), its rhizoma tough and viny, creeping like a network over the perpendicular face of rocks within reach of the spray of waterfalls, where it mixes beautifully with the feathery *Hypnum*s, and other mosses which delight in such positions. The growth of the young fronds, when they rise in May, is nearly horizontal, but after a time they become pendulous. The size of the frond varies from three to nine inches, exclusive of the naked part of the rachis, which is usually twice as long as that which is clothed. Both the pinnulæ and rachis are pale green and hairy. The thecæ, which are in circular masses, and form a sort of sub-marginal series, are brown; Fig. 3, *b* and *c*, will show this arrangement of the thecæ. The Beech fern is found in many of the mountainous districts in Wales, Ireland, and Scotland, as well as in the north of England, in Shropshire, Herefordshire, and on the wilds of Dartmoor, in Devonshire. The

young fronds, which are indicated at Fig. 3 *e*, unfold with wonderful rapidity: appearing first in May, they are mature by July, and perish with the first frosts of winter. There are none but fertile fronds.

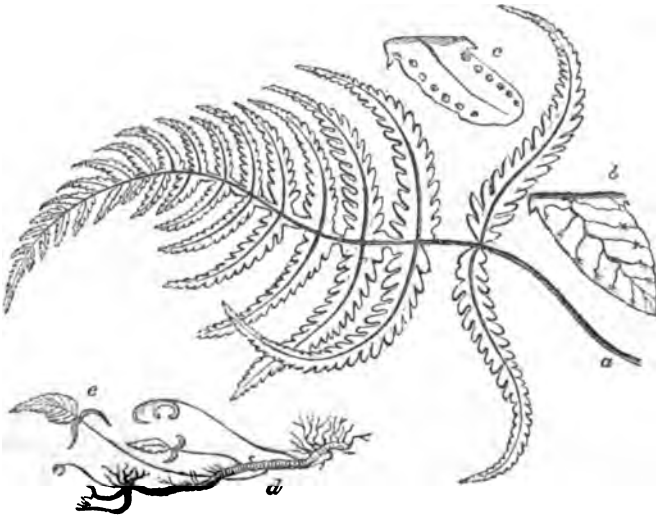


Fig. 3.—BEECH FERN.

The frequent companion of this pretty plant is its congener, the Oak fern (*Polypodium dryopteris*). Newman says, "It is one of our most



Fig. 4.—OAK FERN.

delicate and elegant species, almost entirely confined to wild and mountainous districts, wet woods, and the vicinity of waterfalls; on the most

bleak and exposed mountains it ascends to a considerable height, sheltering beneath ledges of rock and under masses of stone." The range of this fern is limited. Our author says, "If the island were divided by an oblique but irregular line, composed of the rivers Trent and Severn and the Bristol Channel, we shall find *P. dryopteris* present in most counties to the north-west of this line, and nearly absent from those to the south-east."

Its roots and rhizoma much resemble those of *P. phegopteris*, but the growth of the young fronds, which make their appearance much earlier in the year, is very peculiar, each resembling a wire with three branches, crowned with a little ball (Fig. 4. *d*): these gradually unfold, and display the triple character of the frond. They mature early, and display ripe fruit often in June, perishing at the first approach of winter. The stem is very slender, dark-purple, and shining, often twice as long as the frond, which is formed of three distinct triangular portions, each with a separate stem, and all uniting with a common stem at an obtuse angle (Fig. 4 *a*). Each of these three divisions is pinnate, the pinnæ being opposite. The arrangement of the lowest pinnæ, where the stems meet the main stem, is very singular, as the four form a cross, a mark which is strongly characteristic of the species (Fig. 4 *e*). The fronds are of a most vivid and beautiful green, and always fertile. This species possesses one variety of ferns, which is by some authors classed as a distinct species; this (*Polypodium calcareum*) is confined to limestone districts. Mr. Babington says, "*P. calcareum* may be always distinguished from *P. dryopteris*, by being covered with minute stalked glands, forming to the naked eye a mealy coat over the whole plant: this is never, as far as my observation extends, to be found in *P. dryopteris*." The cutting of the frond is somewhat different, as also the colour of the rachis, which is pale-green; but we must not now enter on the other variations which this fern presents to our notice.



Fig. 5.—WOODSIA ILVENSIS.

Leaving the *Polypodium* division of our family, we must now inquire a little into that most exquisitely delicate tribe, the *Woodsias*, which are as rare as they are lovely. This group includes but two individuals, *Woodsia ilvensis* (Fig. 5) and *Woodsia alpina* (Fig. 6).

Both these beautiful ferns are the denizens of the wildest and most inaccessible tracts of country. They root in the fissures of rocks, in the most

bleak and exposed mountainous districts, occurring only in a very few places in Scotland and Wales, and in two of our English counties. The former (*W. ilvensis*) is found in Durham and Westmorland, Caernarvonshire and Forfarshire, the latter in Caernarvonshire and Perthshire; both have been gathered on the highest parts of Snowdon. Mr. Simpson (as quoted by Newman) says: "Recrossing the bridge we pursued the course of the stream (the river Tees), which almost immediately below the snout takes a sudden turn; and thus we found our track hemmed in by the over-laden Tees on our right hand, and the lofty basaltic rocks, called Falcon Clints, on the left. My eye was now anxiously directed to the face of these rocks, to discover, if possible, the chief object in taking our present course, *Woodsia ilvensis*. Rain now began to fall heavily, and the wind, which had been all day very tempestuous, bore it against us so as to render observation, either of locality or objects, very imperfect. However, after tracing, as near as I can judge, about four hundred yards, I

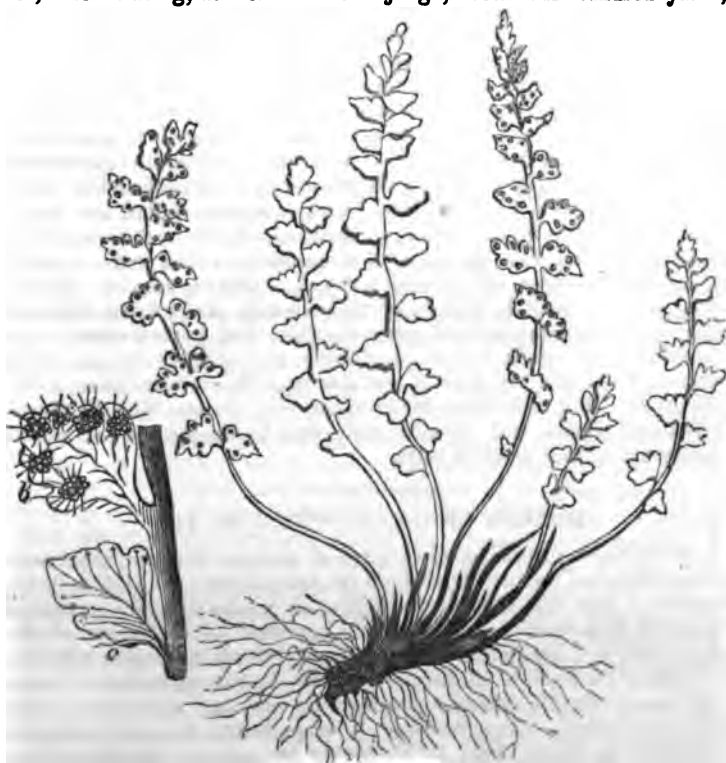


Fig. 6.—HAIR FERN.

espied some small specks of green through the broken fragments of a stream which poured over the Clints, and under which I soon stood, pulling hastily the patches I had seen; and these, to my delight, proved to be two small plants of the *Woodsia*, mixed with a few fronds of *Asplenium viride*, and *Lystopteris fragilis*." The above extract shows at the same time the rarity of the fern, and the eager enthusiasm with which a botanist will

prave all difficulties that lie in his way to the attainment of a new or interesting species. None but an energetic person can hope to be a successful botanist, any more than to succeed in any other sphere of occupation. Some may perhaps suggest that to bestow so much effort on the attainment of these leaves of a plant "is labour in vain;" but—

"Desire which tends to know
The great Work-Master leads to no excess
Which reaches blame, but rather merits praise."

And those who accustom themselves to search out the wonderful works of God, whether as displayed in the direction of the mighty systems which hold their course through the heavens, or in the delicate arrangements of the down on an insect's wing, or the jointed hairs on a fern leaf, find themes for wonder and for praise, which are unknown to him who lives a life of sensual indulgence or careless indifference. The figures which we have given so well illustrate the difference between these two species, that we need do little more than name those peculiar features which distinguish this branch of the Polypodiaceæ family. The mark of *Woodsia*, of which there are a few exotic, as well as our two British species, is, that "the three are intermixed with bristles, supposed to be analogous to an indusium (Fig. 6)." The roots are black and wiry; the rhizoma thick, tufted, and lasting many years. The stem is distinctly jointed at about three-quarters of an inch from its junction with the rhizoma; the articulation being swollen, and very obvious to the naked eye when the frond is mature. The stem above this joint is clothed with lanceolate scales, and shining jointed hairs. The upper surface of the frond appears to the unaided eye to be smooth; but with the aid of a magnifier it is seen to display a few long bristle-like scales, all pointing outward. The capsules are placed in circular clusters near the margin of the underside of the frond, which are clothed with, 1st, long, pointed, narrow scales; 2nd, jointed shining hairs, scattered over the whole surface; and 3rdly, the capillary segments of the involucre, which are also jointed and shining. The whole plant is of a palish green. The differences between the two species, *Woodsia ilvensis* and *Woodsia alpina*, will be sufficiently seen by the figures, and we will therefore not further describe them.

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HISTORY OF CAOUTCHOUC.—No. VII.

ONE of the most surprising discoveries of modern times in reference to any manufactured product, is that of the vulcanization, as it is called, of caoutchouc; and this, whether we regard its purely scientific interest, its commercial importance, or the entirely new field of usefulness which it opens up for the employment of this already widely-applicable substance. Mr. Thomas Hancock is the inventor of this singular discovery. In spite of the many valuable qualities possessed by ordinary caoutchouc, it had some disadvantages which rendered it inapplicable for many purposes. Its clammy, glutinous feel; its hardening by moderate cold almost to the rigidity of wood, and its susceptibility to decomposition or softening by oils of various kinds, together with its feeble powers of resisting great strains or violence, were all felt seriously to impair its usefulness. The combination of sulphur and other substances with caoutchouc has been found to effect a great change in this substance. In fact, vulcanized caoutchouc is more like a totally new material than an improvement upon an old one, its whole range of properties is so entirely altered and extended. There

is a variety of ways of preparing this new combination of caoutchouc. The original method employed by the patentee is as follows:—A quantity of sulphur is melted in an iron vessel, at a temperature between 240° and 250° Fahr.; into this liquid sulphur the caoutchouc is then immersed, having been previously rolled into rough sheets, or cut to any convenient form or size. There it is allowed to remain until the sulphur has penetrated quite through the caoutchouc, which may be ascertained by cutting a portion of it asunder with a penknife. If the operation is complete, the caoutchouc will be changed throughout to a yellowish colour. The sulphur adhering to the surface is then scraped off, and the caoutchouc will be found to have taken up a quantity of sulphur from one-sixth to one-tenth of its weight. The caoutchouc is now in a new condition, called vulcanization; it is then dissolved, or made into paste, or in other ways manufactured into various articles. Sulphur may also be made to combine with caoutchouc by reducing it to a fine powder, and mixing it mechanically. It is also possible to make articles formed of unvulcanized caoutchouc absorb sufficient sulphur to effect their vulcanization, by simply rubbing flour of sulphur upon them, after heating them to about 200° Fahr. Vulcanized caoutchouc, prepared in any of these ways, is still soluble; but by carrying on the processes a little further, a remarkable change is effected in it. The caoutchouc plunged in the liquid sulphur is kept in it at a temperature of from 300° to 370° , for a longer or shorter period. Some chemical process seems to be now taking place; and if the immersion is long continued, the caoutchouc becomes of a dark colour, loses its elasticity, and turns nearly black, having the appearance of horn, and may be pared with a knife, similar to that substance. By the effect of high temperature, not carried so far, such a change in, or modification of the properties of caoutchouc is brought about, that its elastic force is surprisingly increased, and it will now resist to a great extent the action of heat, oil, and grease, as well as the effect of cold, and be capable of resisting the menstrua by which caoutchouc is commonly dissolved. Three years subsequently to the date of this patent, Mr. Hancock obtained a second, in which he describes several improvements in the manufacture of this extraordinary substance. By means of moulds and rollers he produces articles of various shapes and forms, which are then vulcanized. Casts from moulds, surfaces for printing, embossed designs of various kinds, may all be taken by these new processes, and perpetuated from the articles so formed. Mr. Hancock produces also a tissue which is permeable to air or perspiration. This is effected by punching out holes in it, and then vulcanizing. By means of a peculiar process in the manufacture, vulcanized caoutchouc may be made of a structure as full of air-cells as is a well-baked loaf of bread. This is of value when it is to be applied for the purpose of resisting heavy pressure, as in railway springs.

No change could be more complete than that now effected by any of these processes upon caoutchouc. No longer rigid in cold, no longer soft and ductile by heat, not now affected by its former solvents, and now endowed with more than double its former powers of resistance—truly a great change has been accomplished in it; a change which is not inaptly expressed by the term "conversion." A cannon-ball has been broken to pieces by being driven against a mass of it, the caoutchouc only exhibiting a scarcely perceptible rent.

Mr. Brockedon has given the following account of the properties of caoutchouc, in a paper read before the Royal Institution in March 1851:—

"The effect of vulcanization may be produced by kneading sulphur into caoutchouc by means of powerful rollers; or the common solvents, naphtha and spirit of turpentine, may be charged with a sufficient amount of sulphur in solution to become a compound solvent of rubber. In these cases articles may be made in any required forms before heating for the change of condition. It is necessary, however, for this purpose that the form should be carefully maintained during the exposure to the heat necessary to effect the vulcanization which leaves it in a normal state. A vulcanized solid sphere of two and a half inches in diameter, when forced between two rollers a quarter of an inch apart, was found to maintain its form uninjured. In fact, it is the exclusive property of *vulcanized* caoutchouc to be able to retain any form impressed upon it, and to return to that form on the removal of any disturbing force which has been brought to act upon it.

"Caoutchouc slightly expands and contracts in different temperatures; it is also capable of being condensed under pressure. A cube of two and a quarter inches, impactly secured, was subjected to a force of two hundred tons. The result was a compression amounting to one-tenth; great heat appeared to have been evolved, and the excessive elasticity of the substance caused a fly-wheel weighing five tons to recoil with an alarming violence."

The evolution of heat from caoutchouc under condensation is a property possessed by it in common with air and the metals. It differs, however, from the latter in being able to exhibit cold by reaction. Mr. Brockedon stated that he had raised the temperature of an ounce of water 2° in about fifteen minutes by collecting the heat evolved by the extension of caoutchouc thread: he refers this effect to the change in specific gravity. He contends that the heat thus produced is not due to friction; because the same amount of friction is occasioned in the contraction as in the extension of the substance, and the result of this contraction is to reduce the caoutchouc thus acted upon to its original temperature.

THE INVINCIBLE ARMADA.

ATTEND all ye who list to hear our noble England's praise;
I tell of the thrice-famous deeds she wrought in ancient days,
When that great fleet invincible against her bore in vain
The richest spoils of Mexico, the stoutest hearts of Spain.

It was about the lovely close of a warm summer day,
There came a gallant merchant-ship full sail to Plymouth Bay;
Her crew had seen Castile's black fleet, beyond Aurigny's* isle,
At earliest twilight, on the waves lie heaving many a mile.
At sunrise she escaped their van, by God's especial grace;
And the tall Pinta,† till the noon, had held her close in chase.
Forthwith a guard at every gun was placed along the wall;
The beacon blazed upon the roof of Edgcombe's‡ lofty hall;
Many a light fishing-bark put out to pry along the coast,
And with loose rein and bloody spur rode inland many a post.
With his white hair unbonneted, the stout old sheriff comes;
Behind him march the halberdiers, before him sound the drums;
His yeomen round the market-cross make clear an ample space;
For there behoves him to set up the standard of Her Grace.
And haughtily the trumpets peal, and gaily dance the bells,
As slow upon the labouring wind the royal blazon swells.
Look how the Lion of the Sea lifts up his ancient crown,
And underneath his deadly paw treads the gay lilies down.

* Alderney.

† One of the Spanish ships of war.

‡ Edgcombe, near Plymouth.

So stalked he when he turned to flight, on that famed Picard field,
 Bohemia's plume, and Genoa's bow, and Caesar's eagle shield.
 So glared he when at Agincourt in wrath he turned to bay,
 And crushed and torn beneath his claws the princely hunters lay.
 Ho! strike the flagstaff deep, Sir Knight: ho! scatter flowers, fair maids:
 Ho! gunners, fire a loud salute: ho! gallants draw your blades:
 Thou sun, shine on her joyously; ye breezes, waft her wide;
 Our glorious *SEMPER EADEM**—the banner of our pride,
 The freshening breeze of eve unfurled that banner's massy fold;
 The parting gleam of sunshine kissed that haughty scroll of gold:
 Night sank upon the dusky beach, and on the purple sea,
 Such night in England ne'er had been, nor e'er again shall be.
 From Eddystone to Berwick bounds, from Lynn to Milford Bay,
 That time of slumber was as bright and busy as the day;
 For swift to east and swift to west the ghastly war-flame spread;
 High on St. Michael's Mount† it shone: it shone on Beachy Head
 Far on the deep the Spaniard saw, along each southern shire,
 Cape beyond cape, in endless range, those twinkling points of fire.
 The fisher left his skiff to rock on Tamar's‡ glittering waves:
 The rugged miners poured to war from Mendip's sunless caves:
 O'er Longleat's tower,§ o'er Cranbourne's oaks,|| the fiery herald flew:
 He roused the shepherds of Stonehenge, the rangers of Beaulieu.¶
 Right sharp and quick the bells all night rang out from Bristol town,
 And ere the day three hundred horse had met on Clifton down;
 The sentinel on Whitehall gate looked forth into the night,
 And saw o'erhanging Richmond Hill the streak of blood-red light.
 The bugle's note and cannon's roar the deathlike silence broke,
 And with one start and with one cry, the royal city woke.
 At once on all her stately gates arose the answering fires;
 At once the wild alarum clashed from all her reeling spires;
 From all the batteries of the Tower pealed loud the voice of fear;
 And all the thousand masts of Thames sent back a louder cheer:
 And from the furthest wards was heard the rush of hurrying feet,
 And the broad streams of pikes and flags rushed down each roaring
 street:
 And broader still became the blaze, and louder still the din,
 As fast from every village round the horse came spurring in:
 And eastward straight from wild Blackheath the warlike errand went,
 And roused in many an ancient hall the gallant aquires of Kent.
 Southward from Surrey's pleasant hills flew those bright couriers forth;
 High on bleak Hampstead's swarthy moor they started for the north;
 And on, and on, without a pause, untired they bounded still:
 All night from tower to tower they sprang; they sprang from hill to
 hill:
 Till the proud Peak unfurled the flag o'er Darwin's rocky dales,
 Till like volcanoes flared to heaven the stormy hills of Wales,
 Till twelve fair counties saw the blaze on Malvern's lonely height,
 Till streamed in crimson on the wind the Wrekin's crest of light,
 Till broad and fierce the star came forth on Ely's stately fane,**
 And tower and hamlet rose in arms o'er all the boundless plain;
 Till Belvoir's†† lordly terraces the sign to Lincoln sent,
 And Lincoln sped the message on o'er the wide vale of Trent;
 Till Skiddaw saw the fire that burned on Gaunt's embattled pile,‡‡
 And the red glare on Skiddaw roused the burghers of Carlisle.

MACAULAY.

* The motto of Queen Elizabeth. † A rock in Cornwall. ‡ A river in Devonshire.

§ In Wilts, seat of the Marquis of Bath.

|| Dorsetshire.

¶ In New Forest.

** Ely Cathedral.

†† Belvoir in Leicestershire.

‡‡ John of Gaunt built part of the castle of Lancaster.

WILD FLOWERS.

COLT'S-FOOT. (*Tussilago Farfara*.)

Those who are in the habit of observing the plants of our moist and clayey soils, will recognize this as very abundant there. Next to the tassel-like blossoms of the hazel and the silver ray of the daisy, this is the earliest of spring flowers, often blooming in March, before the Violet has yet put forth a bud. As the yellow blossom appears long before the foliage, the plant is less ornamental than it would be, were it accompanied by the large and handsome leaves, which spread, all the summer-time, over many a bank by our way-side walk. The leaves have long been used medicinally as an infusion for cough, and the practice of smoking them like tobacco is still very general in villages. This custom is of very ancient date, for Pliny directs that the foliage should be burned, and that the smoke arising from it should be drawn into the mouth through a reed and swallowed. The scientific name of the genus is derived from *tussis*, a cough.

The under surface of the leaf of the Colt's-foot is covered with a thick cottony down, which was often used for tinder,

when that substance was more in request than it now is. The Tartars are much infested by gnats, and they frequently burn touchwood in order to suffocate these insects, and use the roots of this Colt's-foot for the purpose. It grows on barren steppes and plains where few other plants are found, and it blooms from the beginning of March till the end of April, often giving quite a yellow hue to the lands where it abounds.

Curtis notices one peculiarity in this blossom. As soon as the flower is out of bloom, and the seeds, with the pappus or down as yet moist, are enclosed in the flower-cup, the heads hang down: but as the moisture of the seeds and down evaporates in withering, they become lighter, and the ball of feathery seeds expands, and assumes the appearance of a Dandelion puff.

The creeping character of the roots, the great abundance of the seeds, and the facility with which they are dispersed, render this plant a very troublesome weed on some cultivated lands.

THE
HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

PUBLISHED EVERY WEDNESDAY,

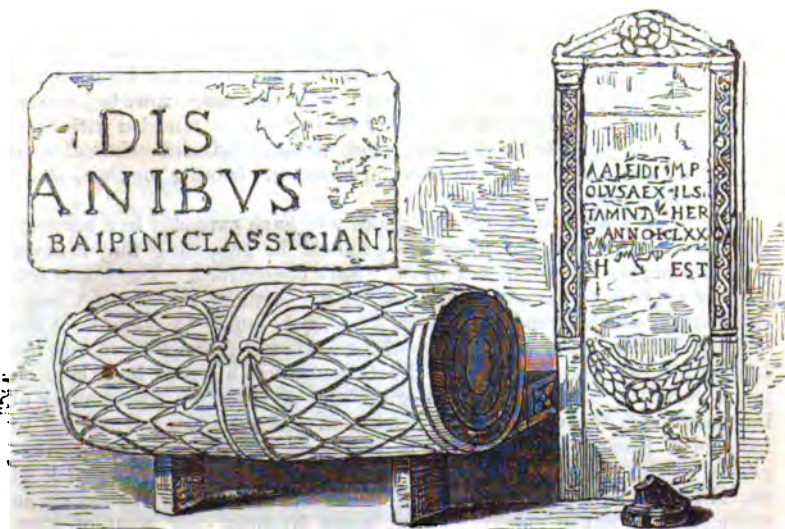
BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.

No. 46.]

AND SOLD BY ALL BOOKSELLERS.

[PRICE 1d.]

**ANCIENT LONDON—ILLUSTRATED BY ITS EXISTING MONUMENTS
AND ARCHITECTURAL REMAINS.—No. III.**



ROMAN REMAINS FOUND NEAR THE TOWER POSTERN.

LONDON is presumed to have been too eligible a site to be left for any length of time forsaken in its ashes. In endeavouring to derive from the vestiges of Roman London which, from time to time, have been discovered, some notion of its earlier position and extent, two methods are available: In the first place we are guided by the observation of the debris of buildings lying upon the primitive soil, over which remains indicative of subsequent Roman works have been found, the details of which will be described in the course of progress. These indicate a growth upwards. In the second place, it may be remarked that, as in the instance of the ancient people of Egypt, the Etrurians and other obsolete races, our chief knowledge has been gathered from their valedictory memorials; so may we

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in the present instance obtain guidance from the discovery of funeral remains, as they have occurred in different places.

Intermural burial was expressly prohibited by Roman law,* and the discovery of evidences of sepulture within the limits of the wall, by which the extent of Roman London, in the period of its full growth, is estimated, serves as an index to the site of its earlier nucleus. The largest cemeteries lay to the east and west of the city, a circumstance which is accounted for by the impracticable nature of the fenny ground on the north side, and the river closely bordering the south; but remains indicating an extended cemetery on the opposite side of the Thames would suggest, either that the dead had been conveyed across for interment, as those of ancient Egypt were over the lake Meris, or that the Romans had a settlement, or a series of stations, on that side of the river.† The vestiges of an extensive cemetery on the site of St. Paul's churchyard were observed by Wren, in digging the foundations for the present cathedral. Here, beneath more recent graves, he found, first, the sepulchral remains of the Saxon period, the graves being lined with chalk; others were constructed of large slabs of stone—a sort of rude sarcophagi. Below these were the interments of the Britons, among which were found an abundance of ivory and boxwood pins (or fibula) about six inches long, which, it appeared, had been used to secure the woollen shrouds of the dead. In the same row, but lower, being at a depth of eighteen feet, the Roman remains, mingled with fragments of urns, lay side by side with those of their British confederates, as they had lived and died;‡ the Roman, however, claiming the lion's share even of the superincumbent soil.

The growth of Roman London appears to have extended in a northern and eastern direction, but there are grounds for supposing that it never stretched beyond the south side of St. Paul's churchyard. The infant settlement appears to have been bounded on the north by the line of Cheap-side, within which boundary, in Bow Lane, was found “a skeleton at the depth of 15 feet, lying north and south, in a kind of grave, formed with the large drain tiles placed edgewise. In its mouth was a second brass coin, so much corroded as to be quite illegible and defaced.”§ The manner of interment, and the use of the *viaticum* in this instance, are enough to indicate a Roman burial, and it is presumed to date from the earliest period of the Roman occupation. Another discovery, in the parish of St. Mary at Hill, brought to light two earthen vessels, containing an abundance of Saxon coins of silver, some Norman ones, most of them pennies of Edward the Confessor, others of Harold the Second and William the Conqueror. Deeper there were found human bones of adults and children, together with Roman bricks, and coins of Domitian of second brass. || Here the evidence is less conclusive, so far as regards the indica-

* The 10th table, “Let no person be interred nor body burned within the city.”

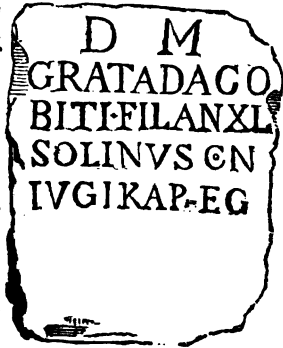
† Ptolemy localizes London on the south side of the river, likewise the Monk of Ravenna; but considering the slight means the former had for minute information respecting so remote an object, as well as that he makes other errors with regard to British topography, his authority can have no great weight, opposed as it is to so many opposite statements supported by proof. The Monk of Ravenna, called Anonymous, in his catalogue of towns, places London on both sides of the Thames.

‡ Parentalia.

§ ‘Observations on Roman Remains recently found in London; by C. R. Smith; 1841.’ *Archæologia*, vol. xxix., p. 145.

|| Brayley, ‘*Londiniana*.’

tions of Roman interment, as was likewise a recent instance which came under the author's notice, in the excavations now in progress in Canon-street. This was a large skeleton, found among Roman foundations, but as it had been moved from the spot where it was first found, and the work of excavation carried on, the mode of interment could not be ascertained. And in the absence of identity with the Roman form of burial, it should be borne in mind that generations of Saxons, after the departure of the Romans, lived and died upon the same level, and whose laws did not include the same prohibition, with respect to interment, as that of the Romans. The accompanying woodcut is copied from a sepulchral stone, the discovery of which does not appear to have been accompanied by any vestiges of interment, or other tokens to show that it had not been removed from its original position; it is, however, of interest, from the rarity of such specimens. The following description of it is in the *Gentleman's Magazine* for 1837, Part II., p. 361.



Roman Sepulchral Stone found in London.

"MR. URBAN,

"Lothbury, Sept. 1st.

"I FORWARD you a sketch of a Roman sepulchral inscription discovered a few days since by the excavators for the new sewer at London Wall, near Moorgate, at about eighteen feet from the surface. The stone is twelve inches square, and about three inches thick. Its area of deposit, judging from its general character and collateral evidence, may be assigned probably to the time of Antoninus Pius, or to a period not far subsequent. Inscriptions, though they have been met with in the precincts of Roman London, are by no means of frequent occurrence. The fact may partly be accounted for by taking into consideration the numerous excavations that, through so many centuries, for such a variety of purposes, must have been made in a city so important and populous, and at times when the study of antiquities was not, as at the present day, an object of such general interest; so that the intrinsic merit of ancient altars and inscribed stones was overlooked or disregarded, and the relics valued merely for the material, and its applicability to be worked into the foundations of houses, or other purposes of building. The present object of our notice, which is the only one of the kind that has been brought to light in London within the scope of my personal observation, if not very important in a general historical point of view, is highly interesting to the antiquarian topographer. The reading presents no difficulty of solution—

Diis Manibus
Grata Dagobiti Filia (vixit) Annos
quadraginta
Solinus Conjugi Karissimae Fieri
curavit.

The name Grata is often met with in ancient inscriptions. Solinus also occurs, but the word Dagobitus I do not perceive either in Gruter, Reinesius, Muratori, nor in some other writers that I have referred to.

Setting aside the well-known Dagobertus, the nearest resemblance I can find to the name, which is evidently of Gaulish or British origin, is that of Dagodumnus, a potter, on a fragment of Samian ware in my possession, which was found also in London. The stone, I understand, has fortunately been secured for our city museum in Guildhall.

"My thanks are due to Mr. J. Edwards, jun., of Finsbury Circus, for first drawing my attention to the discovery.

"Yours, &c., CHARLES ROACH SMITH."

In the above it does not appear clear whether the inscription was found within or without the wall at Moorgate. Other Roman funeral remains are stated to have been found in 1824, as far within the walls as the churchyard of St. Dunstan-in-the-East, and which may be presumed to have formed a sepulchral boundary on the east, in the early times of the Roman possession. These remains consisted of urns, and were found under a tessellated pavement. The practice of burying entire is understood to have preceded that of burning the dead among the Romans, who probably borrowed the latter from the Greeks; but it does not appear to have been universal at any time, and it gradually fell into disuse in the course of the empire. In the colonies, as at Rome, the pomp of the funeral pile may be supposed to have been reserved chiefly for the great and wealthy; and the varieties of usage in burial are exemplified in the mixed evidences of the various sepulchral discoveries in and contiguous to London. It may be concluded that the cemetery in St. Paul's churchyard chiefly sufficed for the demands of mortality during the infancy of the settlement, and continued in use, with the addition of others, as the increase of the population might require.

The most extensive discoveries of funeral remains, probably due to a late period of the empire, have been made beyond the eastern and north-eastern extremities of the city. Of the earliest recorded discovery in that direction, we have the account given by Stow, as follows:—"On the east side of this churchyard" (St. Mary Spital) "lieth a large field, of old time, called *Lolesworth*, but now *Spittle-fields*, which, about the year 1576, was broken up for clay to make brick; in the digging whereof, many earthen pots, called urns, were found full of ashes and of burnt bones of men, to wit, of the Romans that inhabited here, for it was the custom of the Romans to burn their dead, to put their ashes into an urn, and then to bury the same with certain ceremonies, in some field appointed for the purpose, near unto their city. Every one of these pots had in them, with the ashes of the dead, one piece of copper money, with the inscription of the emperor then reigning. Some of them were of Claudius, some of Vespasian, some of Nero, of Antoninus Pius, of Trajan, and others. Besides those urns many other pots were there found, made of a white earth, with long necks and handles, like to our stone jugs; these were empty, but seem to have been buried full of some liquid, long since consumed, and soaked through; for there were found divers vials and other fashioned glasses, some most cunningly wrought, such as I have not seen the like, and some of chrystall, all which had water in them, nothing differing in clearness, taste or savour, from common spring water. Some of these glasses had oil in them, very thick and earthy in savour; some were supposed to have had balm in them, but had lost the virtue. There were also found divers dishes and cups of a fine red-coloured earth, which showed outwardly such a shining smoothness, as if they had been of coral; those had, in the bottom, Roman letters printed. There were also lumps

of white earth, artificially wrought with divers antiques about them, some three or four images made of white earth, about a span long each of them ; one was of Pallas, the rest I have forgotten. I myself have reserved, amongst divers of those antiquities there found, one pot of white earth, very small, not exceeding the quantity of a-quarter of a wine pint, made in shape of a hare squatted upon her legs, and between her ears is the mouth of the pot. There hath also been found in the same field divers coffins of stone, containing the bones of men ; these I supposed to be the burials of men in time of the Britons or Saxons, after that the Romans had left to govern here. Moreover there were also found the skulls and bones of men without coffins, or rather whose coffins, being of great timber, were consumed. Divers great nayles of iron were there found, such as are used in the wheeles of shod carts, being each of them as big as a man's finger, and a-quarter of a yard long, the heads two inches over. Those nayles were more wondered at than the rest of the things there found, and many opinions of men were then uttered of them, namely, that the men there buried were murdered by driving those nayles into their heads, a thing unlikely, for a smaller nayle would more aptly serve to so bad a purpose, and a more secret place would more likely be employed for such buriall. But to set down what I have observed concerning this matter, I there beheld the bones of a man lying (as I noted), the head north, the feet south, and round about him (as thwart his head, along both his sides, and thwart his feet) such nayles were found. Wherefore I conjectured them to be the nayles of his coffin, which had been a trough cut out of some great tree, and the same covered with a plank of great thickness, fastened with such nayles, and therefore I caused some of the nayles to be reached up to me, and found under the broad heads of them, the old wood scant turned into earth, but still retaining both the grain and proper colour." The following, relating to the same burial-place, is told by Casaubon in his Latin tract on credulity. He says that he went thither when a boy, and saw one of the graves newly opened, in which a large skull and some coins were found. The former had been broken in digging, and the pieces scattered and partly taken away ; but " being observed to be beyond the ordinary size, the king was acquainted with it, who appointed that the pieces should be retrieved, as many as might be, and set together, which was done, and then being drawn out according to art, the proportion equalled a bushel in the compass of it." Casaubon conceives this to have been a giant's skull, but other persons, with far greater probability, supposed it to be that of an elephant.* A Roman ossuary, or urn of glass, found on the same ground, and presented by Sir Christopher Wren to the Royal Society, is described, in the Parentalia, as sufficiently capacious to contain a gallon and a half. It was compassed with five parallel circles, and had a handle and a very short neck, with a wide mouth of a white metal. Other similar remains of a cemetery eastward of London, in Sun Tavern-fields, near Shadwell, were discovered in 1615.† A remarkable feature in this discovery is described by Sir Robert Cotton. Two coffins were found. " One whereof," says the learned baronet, " being of stone, contained the bones of a man ; and the other of lead, beautifully embellished with scollop shells and a croteter border, contained those of a woman, at whose head and feet were placed two urns of the height of three feet each, and at the sides divers beautiful red earthen bottles, with a number of

* Strype's Stow, B. 2, p. 99.

† Weaver, 'Funeral Monuments.'

lachrymatories of hexagon and octagon forms ; and on each side of the inhumed bones were deposited two ivory sceptres of the length of eighteen inches each, and upon the breast the figure of a small Cupid, curiously wrought ; as were likewise two pieces of jet, resembling nails of the length of three inches." This superior manner of interment was considered by Sir Robert to have appertained to the consort of some prince or Roman prætor. A quantity of sepulchral remains were likewise found in Goodman's-fields, when the foundations for the present church were dug ; and in 1787 there were found, in the same neighbourhood, fragments of urns, and lachrymatories about seven feet from the surface ; likewise a sepulchral stone measuring about fifteen inches by twelve, inscribed to Flavius Agricola, a soldier of the 6th legion called Victorius, by his wife, Albia Faustina.

D. M.
FL. AGRICOLA. MIL
LEG. VI. VICT. V. AN
XLII. D. X. ALBIA
FAUSTINA. CONIVGI
INCOMPARABILI
F. C.

Another sepulchral stone was found in the year 1776 in a burial-ground, in Church-lane, Whitechapel, at the end of Rosemary-lane, and at no great distance from Goodman's-fields. It was about six feet underground, the inscription as follows :—

D. M.
IVL. VALIVS
MIL. LEG. XXV.V.
AN. XL. H. S. E.
C. A. FLAVIO
ATTIO. HER.*

Horsley, Brit. Rom., p. 79, speaking of Legio Sexta Victrix, says, "I do not find it mentioned in any inscription belonging to the southern parts of the island." The sixth legion is mentioned twice by Collinson in connection with Somersetshire.†

The extensive vestiges found eastward of London are supposed to have appertained to one vast garden of death, extending from the Thames, about Wapping, to the vicinity of Spitalfields ; being divided by the Vicinal way, a main road in connection with the line of Cheapside, which proceeded from Aldgate, along the course of Mile End-road, towards the north-east, a road understood to have been identical with that called Ikenild, or Ichenild-street, derived, by Camden, from the Icenii, in the direction of whose territory it led. It is known to have been the custom of the Romans to plant their cemeteries by the sides of public roads, commencing even at the gates of their cities, as exemplified in the Street of Tombs, outside the Herculaneum gate of Pompeii. A similar feature is finely represented in a picture by Gaspar Poussin, in the Dulwich Gallery. It may be observed that, in conformity with other works of that people distinguished by material display, the city of the dead would naturally demand much space, not only for the avenues and approaches suitable to the minor offices of ancient piety—the sentiment of which is tenderly expressed by Sophocles in the words of the daughter of Œdipus :—

* These inscriptions are thought to have been appropriated to soldiers stationed in a fort, which is understood to have existed on the site of the Tower.

† Malcolm, Lond. Red., vol. iv., p. 450-51.

“Our latest, longest home
Is with the dead ; and therefore would I please
The lifeless, not the living. I shall rest
For ever there,”

but likewise in consideration of the scale of public solemnities by which the obsequies of the great were celebrated ; among which the ceremony of burning the body of the deceased was a leading feature, the details whereof we have in the sixth *Æneid* :—

“Meanwhile the Trojans to the strand repair
With equal zeal, and mourn Misenus there ;
And o'er his cold, insensible remains,
Pour the last tribute of their plaintive strains.
They bid a lofty funeral pile arise,
Of pines and oaks, aspiring to the skies.
With sable wreaths they deck'd the sides around,
The spreading front with baleful cypress bound,
And with his arms the tow'ring structure crowned. }
The brazen caldron some prepare, whose steam,
Urg'd by the blaze, mounts bubbling o'er the brim. }
With groans they wash, with groans anoint the dead, }
O'er his pale corse a purple garment spread,
And lay him decent on the funeral bed. }
Some lift his ample bier, and in their hands,
With looks averted, bear the flaming brands,
A solemn rite ! rich incense loads the pyre,
And oils, and slaughter'd victims, feed the fire.
Soon as the pile, subsiding, flames no more,
The smoking heap with wine they sprinkle o'er :
Then Choringæus took the charge, to place
The bones collected in a brazen vase,
A verdant branch of olive in his hands
He thrice waves round, to purify the bands ;
Slow as he pass'd, the lustral water threw,
Then clos'd the scene, and took a last adieu !”

In continuation, is a picture of the tomb raised by the great ancestor of Rome to the departed Misenus :—

“The pious hero, to record his doom
To future ages, rais'd a lofty tomb.
Th' aspiring top his well-known ensigns bore,
His arms, his warlike trumpet, and his oar.”

The remains of a tomb not unworthy of comparison, so far as may be conceived from the proportion of the fragment, represented in the annexed cut, and other members found near it, were discovered in an excavation at the outer base of a considerable portion of the old walls of London, still standing, at the Tower postern Tower-hill, in August 1852. The principal fragment appears to have been the volute of a capital, or a console, belonging to a tomb of large dimensions and considerable enrichment, in a late style of Roman art. It is five feet in length, and appears to be composed of a fine limestone ; near it were mouldings and several blocks, apparently the fragments of semi-columns, belonging to the same magnificent structure. Those fragments are of high interest, as the only vestiges, with one or two exceptions, of ornamental architecture discovered in London ; and likewise as a variety among the numerous features of the vast cemetery which have been revealed at different periods. Along with those remains

* Ring's Translation.

were found two large sepulchral slabs,* measuring severally five feet three inches by two feet four inches, and six feet six inches by two feet six inches. The smaller stone is mutilated, and contains about three-fourths of a funeral inscription; the larger is entire, but the inscription is nearly obliterated. The top of the stone forms a pediment, in the centre of which is a large rose; a border of roses likewise runs down the sides, and at the base is a wreath, at the pendant point of which there is likewise a rose. Flowers were used among the offerings dedicated by the Romans to the departed, and are enumerated with the funeral oblations offered by their great ancestor at the tomb of Anchises—

"Now to the tomb, surrounded with a throng
Of pious friends, the hero pass'd along;
Two bowls of consecrated blood he pours,
And milk and wine, and scatters purple flowers."

The rose was preferred as a type of immortality, and for its supposed sanitary virtues, as well as on account of its beauty and fragrance. Its virtues are extolled by Horace as curative of grief, and a defence to the sepulchre.

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#### IT'S OF NO USE.—No. IV.

THE day passed as many days had passed before, without any change to relieve its monotony: but this was no subject of regret to Jane, or afforded any pretext for complaint. The heart of the wife and the mother seldom craves any other variety than that which her family employments yield. It is the idle, the restless, the extravagant alone who plead the necessity of leaving a home, when absence from it is injurious to its welfare, or can be accomplished only at the expense of prudence and propriety.

Evening came, but not Collins, and Jane began to be uneasy. She had been out of spirits all day, and every sudden sound made her start. Unwilling to leave her work whilst daylight, as she said, lasted, she desired Richard every now and then to look out if his father was coming; and as it became more dark she bade him go to the corner of the street, and let her know as soon as he saw him.

"What! that tiresome husband of yours is not come home yet?" cried Martha, putting her head into the shop; "and there you are, at it still, poking your poor eyes out of your head, and for what? To spare him, and let him take his pleasure. I would—why, where is the use of it? None; there never has been, and there never will. Come, lay your work down, and get a little fresh air. I know you'll grow to your chair."

"Pray say no more to me," said Jane, almost entreatingly, "I can't bear it: I am tired."

"And so you may well be," returned Martha; "and that poor eye of yours—why it is as red as blood, and looks so angry. Oh! here's Richard. They are coming at last; I'll run and tell my husband, for he is making himself quite uncomfortable about you."

She was hurrying away, when she encountered Richard at the door.

"Why, boy!" cried she, "what's the matter? you are as white as a sheet."

Jane caught the words, and was by their side in an instant. The expression of her son's face told her plainly that something was the matter.

\* Grouped in the accompanying cut (p. 457), as they now appear placed in the British Museum.

"What has happened?" cried she; "tell me at once."

"I don't exactly know," replied he, in an agitated tone. "People say father has met with an accident, and that they are bringing him home in a postchaise."

A sudden darkness shut out every object from the eyes of Jane, and she leaned for support by the side of the door.

"Who told you so?" asked Martha; "people run away with such tales, there's no use believing them; it may be a story after all."

"No," replied Richard, "it is not. Some men who are just come from the races, saw the accident; they say the gig is smashed all to pieces, and both father and Mr. Simmons were thrown out."

Jane heard, and self-possession was restored. She went to the corner of the street, but she could neither learn more than she had already learnt, nor see any appearance of the expected vehicle. The suspense was terrible, and no apprehension seemed too dreadful for her to entertain. At length a postchaise was perceived coming slowly down the road. She now hurried back to her own door, where she stood trembling, ready to receive her husband.

The corner was turned—the chaise stopped before the house. Miles with other neighbours stood in the street. Collins was soon lifted out; his face was pale and marked with blood, which had been imperfectly wiped off, giving him a ghastly appearance. He groaned heavily as they brought him into the house, but was perfectly conscious. He was at once taken up stairs, and laid on the bed, while Miles, with his usual activity, had started off for the medical man, contrary to his wife's advice, who declared it was of no use, as she saw death already on his face.

Martha was as much mistaken in this instance, however, as she was in many others. On examination Collins was found to have sustained several severe hurts which would confine him to his bed for some time, but none which threatened his life. The principal injury that he had received was one, the consequences of which to the business were alarming; he had broken his right wrist, and crushed his thumb and two forefingers in such a manner, as to make amputation of the latter necessary; it was evident, therefore, that he would never be able to work again. Poor Jane was for a little time overwhelmed with this unexpected affliction, and she gave way to a torrent of tears. Martha's often-repeated words were in this instance salutary; the poor woman was soon roused to a sense of the necessity of exertion, and she set herself in earnest to meet the exigencies of the case. There were but two days left to complete the order for the mourning, and as she would be much taken off in nursing her husband, she found she must not only engage Brown to help her, but must seek another person in her own stead. The uncertainty, however, of being able to do this, compelled her to make sure of the present night, and divide her attention between her husband and her work.

"Indeed," said Martha, to whom she communicated her attention, "you shall do no such thing. To attend to one of them is quite sufficient, and more too, poorly as you look. I'll take your place in the nursing way to night, and mother, I am sure, will do the same to-morrow night if it is necessary. No, no: not a word of thanks; where's the use of thanking people for what they would feel themselves ashamed to omit doing?"

"But your husband, will he object?" said Jane.

"Who? Miles! he object?" returned Martha, "No fear of that; if his temper was as good as his heart, there might be hope, and strong hope,

too, that we might be as happy a couple yet as any in England. But that's neither here nor there just now. I'll go and speak to him, and be back in no time."

Miles made no objection, indeed, as Martha had foreseen. He was very partial to poor Jane, and he not only gave his consent to his wife's present assistance, but he went immediately in search of a young man whom he thought likely to assist her in the business. In this he succeeded, and all was as comfortably arranged as circumstances permitted.

Collins suffered great pain, and was very unwell for several days, so much so that he required constant attendance. Poor Jane was fatigued both in mind and body: the present was full of difficulties, and the prospects of the future most discouraging. She could, however, only put her trust in God, and, as she said to Mrs. Grey, "set hard heart against hard sorrow." Her husband had been very silent about the losses he had incurred at the races, and she had not dared to ask him any questions. It had been hinted to her that he had been unfortunate, and she knew that the expenses of the broken gig would fall principally on him. The doctor's bill also, she was aware, must be a heavy one. All these naturally tried her severely, and chased from her features the faint shadow of the smile which had once been so sweet and animated.

"Upon my word, Mrs. Miles," said Collins to her one morning, as she was attending to the dressing of his wrist instead of his wife, "Jane is enough to give one a fit of the blues only to look at her. Did you ever see anybody so dismal in your life?"

"If you had been up stitch, stitch, stitching half the night as she has been," said Martha, "you might look dismal too. You have had a comfortable night of it, any way, I should fancy, if your thoughts—"

This was an introduction that Collins did not relish; he knew Martha to be pretty free in her speech, and he deemed it wise to parry off any intended attack.

"Oh! Mrs. Miles," cried he, lengthening the ejaculation and looking ruefully at her, "oh! what I do suffer with this wrist of mine, and my poor fingers, look."

"And so you ought," replied she: "it's no use mincing the matter; I'm not sorry for anything you do suffer. You might be ashamed of yourself—you might, I say. I'm not ashamed to repeat my words."

"I don't understand you," said Collins, his late pale cheek reddening with anger. "You are very free indeed, I think. I can only tell you if you were my wife—"

"Ay, but thank goodness I'm not," said Martha, quickly; "my husband with all his faults is worth a thousand of such as you. To think of your losing fifteen or twenty pounds at the races, and running up bills that will be as long as my arm before you have done! And who's to pay them?"

"I shall," said he, consequentially, and with indignation.

"You!" repeated Martha, contemptuously, "not you. I wish I could see it. Your poor wife must pay them, if they are paid at all; and look to it, John Collins, it's all very well, but she may not be able to do what she wishes, she mayn't get work to do."

"Nobody's business is better than mine," said he; "I could always have employed more hands than I did."

Martha laughed. "You may say that," replied she; "but that's not what I mean. You have had a good business, you have a good business still, and who may you thank for it? your wife to be sure, but she won't be

able always to do this, even if her health could stand it, which I don't think it will, for she is a very altered woman as any one may see. And I will tell you why she won't be able to do as she has done,—she won't have the business to do. Husband and wife are one, and people can't do good to the woman, much as they may wish it, without doing good to the man, and this they don't like; so the poor thing is to suffer both ways. There are plenty enough now ready to encourage Jane, who, I tell you, will never be willing to encourage you to junket about and take your pleasure, and drink on the sly."

"It's false!" cried Collins; "who says so? Has Jane been making her complaints to you?"

"She complain! Jane say a word against you!" said Martha, "not she. She would work her poor fingers to the bone, and sink under your shop-board for a grave before she would utter a syllable against you, or speak to any one about her troubles, where you were concerned; but such as you never know the worth of a woman."

"Then who makes these charges against me?" asked he, "who dares to say I drink?"

"Almost everybody in the place," replied she, coolly, "and I for one, so there's no denying it. People have eyes and ears to hear and see what's what I suppose; and I tell you fairly, John Collins, take it as you will, if you don't mind, the rain that has stared you in the face a good while, will now catch you. Work you can't, though you may thank yourself for that, but take less pleasure as you call it, and drink less you may, and it will be a shame if you don't."

At this instant Jane entered. She noticed with surprise the flushed cheek of Martha, and she knew the expression of her husband's countenance too well not to perceive that something had put him out of humour. No more, however, was said by any one, till all Collins's wants having been attended to, Martha whispered to Jane, as she was leaving the apartment, "I've given it him well; he never had such a lesson from you I know, and I hope he won't forget it."

Jane trembled and inwardly heaved a wish that Martha's hope would not be realized; nor was she, to outward appearance, disappointed. Collins had heard some home truths that he had not expected, and might even be inclined to deny; but at all events he deemed it wiser to digest the unpalatable admonition he had received in silence.

Collins soon recovered his health; but, as was seen from the first, he was lamed for life. The young man Johnson, therefore, was engaged as a journeyman, and as he was both steady and clever, things went on pretty well for some time. It is rare indeed that friends are wanting when first the blow of affliction is felt. The respect in which Jane was held brought back, in this her hour of trial, some of the customers who had left them, and procured her others. But after a while appearances were not so favourable. Collins was not liked; and the reports in circulation respecting him increased the prejudices entertained against him, and Martha's predictions about man and wife became, in some degree, verified. Johnson's wages, though not more than he deserved, was a serious drawback, and consumed much of the profits of the business. People, too, are ever fond of change. A new tradesman, partly encouraged by Collins's known inability to work for himself, and partly because he had friends of his own, commenced business at this time, and if he did not materially benefit himself, he certainly injured his opponent.



From the very first, Jane's greatest apprehension arose from the leisure which she saw Collins must inevitably possess from the circumstance of his injured wrist and hand. Work he could not, drink she feared he would; nor was she mistaken. Hitherto he had concealed his propensity by indulging himself at home, or in the houses of his most intimate friends; but by degrees he stayed oftener and longer at a public-house, and the dread that he had once entertained of being acknowledged as an intemperate character vanished.

Jane had long learnt to cut out, and she excelled in the art; even Collins allowed that she never wasted an inch of cloth, and as a sempstress no one was quicker and neater than herself. Could she but have overcome the difficulty of taking a measure, and attending at persons' houses for that purpose, she would have proposed to her husband to part with Johnson at once, feeling that, with occasional help, there was not more to do than she could manage. The young man, however, consented to take less wages, and Jane resolved to work still harder, and to use, if possible, more self-denial. She urged her husband to look over the books, in which employment Richard was well able to assist him; but it had been better if she could have done it, to have taken, with her son, the books in her own charge, for Collins often contrived to receive the money unknown to her, spend it, and neglect to cross out the account.

Whenever Johnson was in the shop, Richard never remained with his mother; but if she was alone or at work in the sitting-room, he was never so happy as by her side. It was then that he anticipated, as before his father's accident, her every wish, though as formerly he never offered to work regularly with her. It was now quite time that he should choose a business, but though he had professed to take a fancy for two or three trades that he named, it ended in nothing.

Jane had been very much fatigued one day with her work, which was stiff and cumbrous, and as she tried in vain to hold it more conveniently, Richard, who was sitting by her, saw a tear fall from her cheek. He coloured crimson deep, and his features showed strong emotion.

"It shall be so!" cried he, vehemently; "I can hold out no longer; let the boys sneer at me, anything is better than to see you thus," and throwing his arm round her neck, he mingled his tears with hers.

"Come, cheer up, mother," said he, recovering himself. "I *will* be a tailor, and since I have come to that determination, I will be a good one; yes, I will be a first-rate workman or none at all."

"Think, before you decide," returned Jane, pleased yet fearful to take advantage of what might be only the result of excited feeling.

"I have thought," replied he, firmly, "I have decided, and I will abide by my determination; so now set me fairly to a job, for I'll begin in earnest this very evening."

Jane raised her eyes and hands to heaven. "Then may God prosper and bless you!" said she, fervently, and looking tenderly at him, she added, "if you will be dearer to no one else for this, you will be dearer to me."

She could say no more, her heart was too full; but the evening passed happily, and her sense of fatigue was greatly lessened. She had never omitted to pray for her boy, but that night her supplications to the throne of grace were more than usually earnest, though alas! they were uttered by the side of her sleeping husband, who was buried, not in the wholesome slumber that previous labour invites, but in the heavy sleep of intoxication.

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## HISTORY OF CAOUTCHOUC.—No. VIII.

### APPLICATIONS.

HAVING now completed the history of caoutchouc, we may glance at a few of its applications. We may merely indicate by name its application to the waterproofing of cloth, mentioning, in passing, that the new waterproof material now becoming fashionable under various names, and distinguished by its resemblance to a varnished tarpaulin, is a fabric made of cloth, varnished with the solution of caoutchouc; in every respect similar to the macintosh, excepting that the latter is a double tissue, while this is single, and the surface of caoutchouc is exposed to view. Out of a number of useful purposes to which the sheet caoutchouc is turned, such as gas-bags, elastic tubes, hermetical coverings for bottles, &c., we may mention its application for stopping the necks of bottles as a substitute for corks, as among the most simple and useful. The so-called caoutchouc corks are in fact pieces of cotton enveloped with a thin layer of caoutchouc.

A singular application of caoutchouc is exhibited in the material called *kamptulicon*. This is a compound of cork and caoutchouc. In some experiments made at Woolwich the value of this substance as a sheathing for ships of war was well illustrated. On being fired at with a common shot, the material exhibited a scarcely perceptible rent, although the ball had passed completely through it, and in one experiment the elasticity of the material caused the ball to rebound some yards. Its value in retaining iron splinters was shown afterwards, when it was found that several jagged pieces of iron were firmly imbedded in its substance. The same material has also been used for a life-boat and for pavement.

Another highly ingenious and successful application of the same material is to be found in what are called the "Patent Epithem" fabrics. This was, we believe, the invention of a surgeon, anxious to find a good substitute for a poultice! Unquestionably the substitute is superior to the thing itself. The epithem is formed of a quantity of pieces of sponge cut into minute shreds, which are attached to a back made of very thin caoutchouc. When used as a poultice the sponge absorbs the water, while the impervious back prevents its evaporation, and thus the artificial poultice is always soft, moist, and warm; three qualities which even the best of Mr. Abernethy's poultices, and he was considered a great authority in such matters, never retain long. The applications of caoutchouc in surgery are very numerous. Vulcanized caoutchouc has a still more extended range of usefulness—its applications being in fact only just in their infancy. By proportioning the degree of its vulcanization, a material can be procured which is either applicable for locks or other purposes, or the delicate, wonderfully elastic, and useful little things now so largely employed under the title of elastic bands. The same substance is also capable of being moulded into a variety of useful forms. For those who have tender feet a moulded sheath for corns is made; for liquids, such as ether, ink, &c., small impervious, insoluble, and hermetically tight bottles are formed. Its use for elastic tubes is infinite; the steam carriage and its tender are united by a tube of this kind, through which the boiler of the former receives its supply of water from the latter. It is also largely employed as water-hose for fire-engines; and in the new method of discharging the contents of cesspools. For gas it is also used. A stronger description of the same tube has been used as a substitute for the iron tire of carriage-wheels. Vehicles thus

fitted run with great smoothness and without any noise ; but the close application of the soft elastic surface of the caoutchouc to the muddy stones, would seem to produce a degree of suction which must interfere with facility of draught. The most important application of this material is to the formation of springs for railway carriages. Mr. Fuller has patented a certain form of such springs which has been found capable of resisting the most severe pressure. The experiments which have been instituted, have shown that springs made of vulcanized caoutchouc are three times as strong as metallic springs. They have been found capable of resisting, at the height of their tension, a pressure of from five to ten tons. In the reading room of the British Museum, the chairs have all been shod with vulcanized caoutchouc, in order to put an end to the noise created by their being moved about, and the result has proved entirely satisfactory. In the same establishment the doors have been protected with an edge of the same material, by which it is impossible to bang them with any noise. Vulcanized caoutchouc is already taking the place of steel in a number of machines. We recently saw a beautiful automatic cotton mule, made by Mr. Roberts of Manchester, in which several important springs were formed exclusively of this substance. An immense number of minor articles, each useful in its way, are now made from this material, and it is evident that a most extensive series of purposes exists in which it may be usefully applied.

"In the American department of the Exhibition we see a new application of India-rubber. We have often heard of 'real blessings to mothers;' but what will they say to everlasting toys—toys that will never break? This great desideratum of the nursery has been effected in America by the use of vulcanized India-rubber. Here we have rattles, lions, tigers, monkeys, horses, frogs, dolls, absolutely indestructible. We fear that this will be considered by the toy-makers of France, Germany, and Switzerland, as one of the evil results of the Exhibition; for who would think of purchasing toys of lead, tin, wood, or papier-maché, when they can be had of indestructible India-rubber?

"Another use of the vulcanized caoutchouc is in the formation of sheets, which may be made almost as thin as paper, and which receive impressions with the same facility. These sheets may be printed on, and afterwards formed into a globe by distending with air: so that a sheet of India-rubber, which may be carried in the coat-pocket, may be extemporised into a terrestrial globe in a few minutes. These sheets are extensively employed for maps, and the great advantage which they have over paper and linen is that they neither tear nor crease. A great variety of specimens of this use of India-rubber are to be found both in the Macintosh Company's case and in that of the American Goodyear.

"We cannot describe the various objects of ornament to which this substance is applied. It may be made to assume any form that the artist can suggest. Embossed sheets, with very elegant patterns, as well as embossed mugs, bottles, &c., are exhibited by the Macintosh Company. In America they have succeeded in making caoutchouc as hard as wood; and chests of drawers, sideboards, rulers, imitations of veneering, and other uses where hardness is required, are amongst the purposes to which it has been applied."

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## NINEVEH—COSTUME.

IN the time of the Lower Dynasty the ordinary dress of the king differed less in the general form than in the style of its decoration, from that of the early monarchs. That in which Shalmaneser is commonly figured was very beautiful. It consisted of an under-gown or *caftan*, fitting rather close to



SHALMANESER AND HIS VIZIER.

the body, and reaching from the neck to the ankles; furnished with short sleeves tightly embracing the upper arm, and terminating sufficiently high to display the encircling armlets. This garment was either embroidered or woven in an elaborate but regular pattern, such as that composed of the repetition of a square figure of double lines, with a central rosette or star. The usual broad fringe of tassels formed the lower extremity, sometimes united at their tips by an edging of four rows of beads, probably pearls.

Over this gown was thrown the divided mantle; the skirts of which, one before and one behind, hung in a very elegant manner, about as low as the

knees, with both extremities rounded. A pattern of embroidered work covered its whole surface, composed of a circular, many-petalled flower, or rosette, repeated in quincuncial order; the margin was a pattern like that of the under gown, and was edged with a broad fringe instead of fur. The edging and fringe running up on each side of the lateral openings, and falling over the shoulders in front, imparted much elegance to this rich garment. At the waist a sort of pocket was formed, open at each end, beneath the edging and the fringe, through which the sword in its highly-ornamented sheath passed horizontally, the hilt projecting in front, and the tip extending to some distance behind the royal person.

When we describe this mantle as opened up each side, we do not speak conjecturally; for the sculptures can only represent one side. It is just possible that one side only may have been open, in which form it would present an analogy to those very singular garments which are seen on so many Asiatic figures in the monuments of ancient Egypt, and in particular by some of the gorgeously-coloured representatives of Semitic nations in the tomb of Rameses-Mei-Amun. One of these, a man of the Tehen-nu (supposed by some to be the Hittites) is here represented.



A SEMITIC COSTUME.  
(From an Egyptian painting.)

Some of the sculptures suggest the thought that the opening was single, and extended up the front; and only represented up the side by the artists' deficiency of a knowledge of drawing. But there are some representations which preclude this explanation; such, for example, as that of a female accompanying some camels, on a slab from the Central Palace of Nimroud, now in the British Museum. It is true this female is a captive from some foreign people; but the costume is evidently identical with that under consideration; which indeed was worn by several of the tribes, with which the Assyrians habitually warred.

It is by no means improbable that it was commonly worn by the Hebrew race; and that the word rendered skirt in the following and other passages, but which literally signifies a wing, refers to a long fringed wing-like divisions of

this sort of mantle.

"*Spread therefore thy skirt* over thine handmaid; for thou art a near kinsman." (Ruth iii. 9.)

"And as Samuel turned about to go away, he [that is, Saul, apparently] *laid hold upon the skirt* of his mantle, and it rent." (1 Sam. xv. 27.)

"Then David arose, and *cut off* the skirt of Saul's robe privily." (1 Sam. xxiv. 4.)

"If one *bear holy flesh in the skirt* of his garment, and *with his skirt* do touch bread, or pottage, or wine, or oil, or any meat, shall it be holy?" (Hag. ii. 12.)

"Thus saith the Lord of Hosts, In those days it shall come to pass, that ten men shall *take hold*, out of all languages of the nations, even shall *take hold of the skirt* of him that is a Jew." (Zech. viii. 23.)

We have marked with Italics those words which in the above passages appear to us favourable to the supposition, that the form of the skirted mantle of the Jews was very similar to that of the Assyrian.

The officers of the court, in the Khorsabad era, wore a long gown similar in form to that of the king, but unadorned, except at the lower edge, where the border, the fringe of tassels, and the rows of pearls (?) were the same as on the garment of their master: its short sleeves had no border. It fitted close to the shape, and was encircled at the waist by a girdle, apparently of loose texture; perhaps like that which Josephus describes as worn by the Jewish priests, "so loosely woven that you would think it were the skin of a serpent." Over this was worn a vest of singular form; it was wholly of fur, with the exception of a broad belt of embroidered work which formed its upper margin, and passed obliquely over the left shoulder and under the right arm. The fur of the body of this garment was disposed in two layers, of which the upper was oblique, and parallel to the belt, the lower was horizontal.

The use of furs was nearly general among all the Asiatic tribes settled in countries above the 40° of N. lat. The Scythians used cloaks of fur. They were also worn in Babylon, being considered a necessary to wealth, rank, and beauty. Furs are among the presents of the governors, represented on the great relief of Persepolis; and this object of luxury was in great estimation among the Indians from the most ancient times.

In the sculptures of the same era there is often represented a long pointed piece of fringe, attached to a very narrow strip of cloth, merely sufficient to carry it, hanging down on the right side to the middle of the leg. It much resembled a wing in form, and was worn only when the garments were very short. We incline to think from several appearances, though we cannot positively assert the fact, that in every period it was not unusual to wrap a very long narrow strip of fur or fringe, round and round the body, crossing over the shoulders, over the breast, and around the waist, with many circumvolutions; and it may be that this wing-like appendage was the end, allowed to hang loose. Narrow lappets of this sort, always fringed, seem to have been favourite appendages, appearing on various parts of the attire.



FRINGED LAPPET.

The copious use of fringes appears from the evidence of Egyptian, as well as Assyrian and Babylonian monuments, to have been highly characteristic of the costume of Western Asia. And we know that they were distinctly commanded to the Jewish people by solemn, express, and repeated ordinances of their law, whence it has been inferred that there was some recognised religious idea attached to them.

"Speak unto the children of Israel, and bid them that they make them fringes in the borders of their garments throughout their generations, and that they put upon the fringe of the borders a riband of blue; and it shall be unto you for a fringe, that ye may look upon it, and remember all the commandments of the Lord, and do them." (Numb. xv. 38, 39.)

"Thou shalt make thee fringes upon the four quarters of thy vesture, wherewith thou coverest thyself." (Deut. xxii. 12.)

The term "fringe" in these passages is in the original represented by two distinct words, which are supposed to differ in their meaning. That used in the former elsewhere means a lock of hair (Ezek. viii. 3), and was

possibly analogous to the edging of fur that we see upon the Assyrian mantles. The word of the latter passage is supposed to have signified strings with tassels at the end, fastened to the corners of the garment. If this was so, it is illustrated with singular felicity by the tasselled cords which hung from the corners of the Assyrian frocks already described.

Trousers or drawers were not worn, as far as we can judge, in the early ages, either by the Assyrians or by the nations with whom they had intercourse. The knees of the warriors that are depicted with very short frocks are naked; and the reversal of the loose garments on wounded enemies as they fall from the battlements, shows that nothing of the kind in question was worn by them. In later times, however, the thighs and legs were occasionally covered; though whether we are to regard the covering as armour or raiment, we are not quite certain.

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WILD FLOWERS.



COWSLIP FERT.—(*Arum maculatum*.)

This plant is known in country places by the name of Wake Robin, and Lords and Ladies. It is very common in our English hedges, but is rare

in Scotland, and in most parts of Ireland. It is in flower during April and May, and the club-shaped column, around which the pistils and stamens are situated, is sometimes of a deep violet, at others of a buff or pale green tint. The large shining leaves are often spotted, and in winter a thick cluster of rich orange-coloured berries surrounds the stem of the plant, until they are eaten by birds.

The root of the *Arum* is a tuber, and affords a quantity of farinaceous powder, which forms an excellent substitute for flour, and is sold for that purpose in Weymouth and Portland Island. The writer received a letter from a gentleman holding an important post at Gort, in Galway, stating that as the plant grew there in great abundance, he was desirous that the poor Irish, then suffering from all the ills of want, should find in it a resource from starvation. He had tried various methods of preparing it. It had been boiled, baked, or dried in the sun; but though the acrid principle existing so powerfully in the uncooked root was much dissipated by these means, yet it was not wholly destroyed. He was recommended to grate it into water, and afterward to pour off the liquid and dry the sediment. The plan succeeded, and the benevolent inquirer had the satisfaction of procuring a tasteless and nutritious powder from the *Arum* root.

The root was much used in Queen Elizabeth's time for stiffening lawn, which was then but just introduced, and which, being so thin, needed strong starch to stiffen it. But the Dutch woman who came hither to teach the English ladies how to starch linen, made them so great proficient, that soon the ruffs were worn more than a yard deep. The starch made from the *Arum*, however, irritated the hands of those who used it.

CURIOSITIES OF PHYSICAL GEOGRAPHY.—No. III.

THE vegetation of the earth next claims our notice. The scent of the *Humiria* has been sensible three miles out at sea, off the coast of South America; the same may be said of a species of *Tetracera* in Cuba, and the Spice Islands scatter their perfume to a considerable distance from their shores. Some plants are only odorous in the night-time: the magnificent and sweet-scented blossom of the *Cereus* begins to expand at twilight, is full blown at midnight, and closes for ever at the break of day. Many plants close their flowers at night; the orange-coloured *Eschscholtzia* is so sensitive that it closes when a cloud passes. The Cedar of Lebanon grows naturally on that mountain alone, and the *Disa grandiflora* is only found in a small space on the summit of Table Mountain, at the Cape of Good Hope. Vegetation flourishes in Iceland in water so hot that an egg might almost be boiled in it; whilst, on the other hand, the *Palmella nivalis* finds nourishment in the snow itself. In these icy regions vegetation is stunted; the *Salix lanata*, a giant here, never rises more than five inches above the ground, its stem, which is ten or twelve feet long, lying hidden in sheltering moss. Plants grow up, blossom, and die in six weeks in the brief but glowing summers of these high latitudes.

There is a plant in Tibet, which is said to be so nutritious that sheep fatten upon it in twenty days. In the west of India are found thorny trees nearly destitute of leaves, and having long shaggy hair, which imbibes nourishment from the atmosphere. The moving plant is a native of the basin of the Ganges; its leaves revolve in different directions, both by day and night, though occasionally, on a very hot day the plant is entirely at

rest, and a high wind often puts a stop to its movement. Sometimes a few leaflets only move, at others nearly all will be in motion; but some part of the plant is generally at rest. The *Stillingia sebifera* furnishes the Chinese with tallow, which is obtained by bruising its seed-vessels and seeds. These, when boiled, give out fatty matter which is skimmed off and cooled into tallow. The Arang, found in the Malayan peninsula, is a species of palm covered with black fibres resembling horsehair, which are made into cordage. In the valley of the Irrawaddy, grows the *Borassus flabelliformis*, whose leaf is so large that one is sufficient to cover twelve men. The gutta percha tree is found in the islands of the Indian Archipelago, as is the *Dryobalanops camphora*, in whose stem lumps of a precious kind of camphor are found. In Java the deadly upas tree is found, and the sting of a nettle in this island causes illness for days; whilst in Timor there is a plant called Devil's leaf, whose sting produces long illness, and even death. Club mosses grow to the length of three feet in these islands, and the *Rafflesia Arnoldi* is common: this floral giant is a parasitical plant, having a carrion-scented flower of a brick-red colour, three and a half feet across, weighing fifteen pounds, and capable of containing twelve pints of water in the cup in its centre. In the isle of Simao, a large wood of the *Ficus Benjamina* was seen which sprang from one stem; and in Guzerat there is a Banyan tree with three hundred and fifty main trunks, occupying an area of two thousand feet in circumference: its branches spread much further.

In the African flora we have the *Euphorbia*; the *Euphorbium antiquorum* grows forty feet high in the form of a branched candelabrum; the *Adansonia*, or baobab tree—the king of the woods, whose trunk is sometimes more than one hundred feet in circumference, and its hemispherical top so compact that a forest of these trees at a distance resembles a green field; the *Pandanus candelabrum*, or chandelier tree, whose lofty forked branches terminate in branches of long stiff leaves; the *Stapelia*s, with square leafless stems and star-shaped flowers, smelling like carrion; and the *Bassia*, or butter tree, whose seeds yield a buttery substance which is extensively used as food. In Madagascar are found the *Hydrogeton fenestralis*, an aquatic plant, whose leaves resemble the skeletons of leaves, and the *Tanghinia veneniflua*, whose seeds are used to execute criminals, one of which, though not much larger than an almond, is said to contain poison enough to kill twenty persons. The Screw-pine abounds in the isles of Bourbon and Mauritius; it sends out strong shoots from its stem, which enable it to sustain the violent winds to which it is exposed.

In Australia there are whole forests of trees without leaves, their place being supplied by leafy footstalks set edgewise, with their margin towards the stem, and yet these trees form a dense shade. *Casuarinæ* are found here with long hair-like branches; nettles twenty feet high; grass-trees, rising solitarily upon the sandy plains, with scathed and blackened cylindrical trunks, occasioned by the fires of the natives, terminating in tufts of long grassy leaves; stylidia, possessing a column formed by the union of central parts of the flower which erects on exposure to heat, and returns to its natural state on its withdrawal—ten or fifteen minutes of rest are then required before this column will again exhibit irritability; fig-trees whose seed has been deposited by birds on the iron bark-tree, where it has vegetated and enveloped the trunk of this tree so completely that its top alone is visible in the middle of its envelope; except a few berries, there is no fruit, grain, or vegetable fit for food to be found growing naturally in Australia or Van Diemen's land. In New Zealand is found the *Metrosi-*

deros robusta, growing to a great size, and sending shoots from the trunk and branches to the ground, which in time sustain the old stem, whose vitality appears to leave it: here are many species of ferns, some of which are arborescent and forty feet in height, and in this island vegetation flourishes in water too hot to be touched.

In North America we have the *Sarracenia*, or side-saddle flower, with pitcher-shaped leaves, covered with a lid and half filled with water: the *Dionæa muscipula*, forming a trap by means of two opposite spring lobes of its leaf, which closes instantly upon any insect that alights upon it and comes in contact with its sensitive parts; beautiful and lofty magnolias which drop their seeds out of the seed-vessels when ripe, and keep them suspended by a long extensible elastic cord, as does another genus of plants: pines of the enormous height of three hundred feet and eighty feet in circumference: air-plants which cover the boughs of the forests of Florida, and Alabama, whence they hang in festoons: the *Cheirostemon*, whose stigma resembles the human hand; and passion-flowers, so called from the fancied resemblance which parts of the flower bear to the emblems of our Saviour's crucifixion. In Jamaica is found the *Tellandsia utriculata*, growing on old decayed trees, with leaves so placed that the water which runs down them is retained at their bases, which swell out and form a bottle holding about a quart. Animals and travellers avail themselves of this supply, which is often to be had when all other sources fail.

In South America we have the *Strychnos loscariæ*, a creeping plant found in Guiana, which yields the deadly wourali poison: the *Sapindus saponaria*, or soap-tree, whose berries are employed for washing; Mandisc, an acre of which is said to yield as much nourishment as six acres of wheat: the cow-tree of Venezuela, yielding from incisions in its trunk a great quantity of nutritious milky juice: reeds one hundred, and grasses forty feet in height: lofty and handsome pines with cones as large as a child's head, which are extensively used for food—one tree supporting eighteen persons for a year it is said: mimosas so sensitive that the falling of horses' feet by the way is asserted to be sufficient to set whole masses of them in motion: and the *Erythroxylon coca*, which is extensively cultivated for its leaves, which when mixed with an alkaline substance, are chewed by the Indians, whereby they are enabled to endure great fatigue for days together, without any other food: the practice is however very hurtful. It produces three or four crops of these leaves annually.

In Tierra del Fuego there is a bright yellow fungus growing on beech-trees, which forms a great part of the food of the natives.

In the Falkland Isles we have the *Bolax*, growing in hemispherical tufts often four feet high and more than twelve in circumference, and of a yellow green colour. These mounds discharge a strong-scented, resinous substance. The *Dactylis cespitosa*, or Tussack grass, abounds here, flourishing most on the sea-shore. Each tussack forms a solitary plant, consisting of roots twisted together, and often six feet high and four or five feet in diameter, from the summit of which a thick mass of grassy blades, six feet long, droops on all sides. This foliage, joined with that of contiguous plants, forms an arched shelter for sea lions, penguins, and petrels. In the Auckland Islands, which lie to the south of New Zealand, a plant grows near the sea with clusters of green waxy blossoms as large as a child's head.

The *Macrocystis pyrifera*, a marine plant, attains a length of from five hundred to one thousand five hundred feet, and is the longest vegetable production known. On the shores of California there are fields of it so dense

that ships driving towards the land have been saved by it. The *Lessonia*, another marine plant, is found on the coasts of the Falkland Isles. Its stems, thicker than a man's leg, and from eight to ten feet in length, cling to the rocks above high-water mark by means of fibres: many branches spring from these stems bearing long leaves which hang down into the water. Marine plants form vast submarine forests at the southern extremity of America, and are so strong and buoyant that they raise up large stones. Myriads of animals and parasitical plants inhabit these forests. There is a mass of floating vegetation west of the Azores, which occupies an area equal to that of France; it was there in the time of Columbus. Similar fields are found in other places: there are permanent bands of sea-weed in the British Channel and in the North Sea, in beds fifteen or twenty miles long, but not exceeding six hundred feet in width. Different kinds of sea-weeds grow at different depths; and as their seeds float in the zone of water most genial to the future plant, they must vary in weight. The sea in the Antarctic regions is tinged with a pale ochraceous brown by microscopic vegetation; and it is remarkable that the remains of these marine plants are forming a submarine bank between the seventy-sixth and seventy-eighth parallels of latitude, and from the one hundred and sixty-fifth to the one hundred and sixtieth western meridian. Bands of *Confervæ*, several miles long, of a reddish-brown hue, and resembling chopped hay, are met with off Bahia, on the coast of Brazil.

The yew is the longest-lived European tree; one at Braburne, in Kent, was computed to be not less than three thousand years old: a lichen was watched for forty years without apparent change. The baobab is supposed to attain an immense age; one was calculated to be five thousand one hundred and fifty years old, and Humboldt considers a cypress in the garden of Chapultepec to be still older. These computations are doubtful; but if they are correct, these two trees are, perhaps, the most ancient organized beings in the world.

THE NAMES OF TREES.

1. WHAT's the sociable tree ?
2. And the dancing tree ?
3. And the tree that is nearest the Sea ?
4. The most yielding tree ?
5. The busiest tree ?
6. And the tree where ships may be !
7. The languishing tree !
8. The least selfish tree !
9. And the tree that bears a curse !
10. The chronologist's tree ?
11. The fisherman's tree ?
12. And the tree like an Irish nurse ?
13. What's the tall-tale tree ?
14. The traitor tree ?
15. And the tree that is warmest clad ?
16. The layman's tree ?
17. And the housewife's tree ?
18. And the tree that makes one sad !
19. What's the tree that with death will benight you ?
20. And the tree that your wants will supply !
21. The tree that to travel invites you ?
22. And the tree that forbids you to die !

23. What tree do the hunters resound to the skies ?
24. What brightens your home, and your mansion sustains ?
25. What tree urged the Germans in vengeance to rise,
And fight for the victim by tyranny slain ?
26. The tree that will fight ?
27. And the tree that obeys you ?
28. The tree that never stands still ?
29. The tree that got up ?
30. And the tree that is lazy ?
31. And the tree neither up, nor down hill ?
32. The tree to be kissed ?
33. And the dandiest tree ?
34. And what guides the ship to go forth ?
35. The tree of the people ?
36. The unhealthiest tree ?
37. And the tree whose wood faces the North ?
38. The casulous tree ?
39. The industrious tree ?
40. And the tree that warms man when cold ?
41. The reddish-brown tree ?
42. The reddish-blue tree ?
43. And what each must become e'er he's old ?
44. The tree in a bottle ?
45. The tree in a fog ?
46. And the tree that gives joints pain ?
47. The terrible tree, when schoolmasters flog ?
48. And what of mother and child bears the name ?
49. The treacherous tree ?
50. The contemptible tree ?
51. And that to which wives are inclined ?
52. The tree which causes each townsman to flee ?
53. And what round fair ankles they bind ?
54. The tree that's entire ?
55. And the tree that is split ?
56. The tree that's half given to Doctors when ill ?
57. The tree that we offer to friends when we meet ?
58. And the tree we may use as a quill ?
59. The tree that's immortal ?
60. And the trees that are not ?
61. And the tree that must pass through the fire ?
62. The tree that in Latin can ne'er be forgot,
And in English we all must admire ?
63. The Egyptian plague tree ?
64. And the tree that is dear ?
65. And what round itself does entwine ?
66. The tree that in billiards must ever be near ?
67. And the tree that by Cockneys is made into wine ?

 THE DROPPING WELL.

SPRING-WATER, even that which is the most transparent, generally contains certain mineral substances, gathered from the soil through which the water flows. The substances are often so completely dissolved as to leave the water clear and sparkling, while they add to its wholesome qualities, and also render it agreeable to the taste.

It is owing to these mineral substances that many springs have the

property of petrifying objects, that is, covering them entirely with a stony crust, which makes them appear as if changed into stone. Such springs are seen in several parts of our own country, but far more strikingly in foreign lands, in the neighbourhood of volcanoes. The Dropping Well at



Knaresborough, in Yorkshire, is one of our most noted petrifying springs. It rises at the foot of a limestone rock on the south-west bank of the river Nidd, opposite to the ruins of Knaresborough Castle. After running about twenty yards towards the river, it spreads itself towards the top of a cliff, from whence it trickles down in a number of places, dropping very fast, and making a tinkling sound in its fall. The spring is supposed to send forth twenty gallons of water every minute, and while in rapid motion, the fine particles in which it abounds are carried forward, or very slightly deposited; but as it approaches the cliff, or rocky elevation above named, it meets with a gentle ascent, becomes languid in its pace, and then deposits abundantly on grass, twigs, stones, &c., a petrifying substance which renders them exceedingly beautiful. The cliff is about thirty feet high, forty-five feet long, and from thirty to forty broad, having started from the main bank, upwards of a century ago, leaving a chasm of two or three yards wide. The water is carried over this chasm by an aqueduct; but there is sufficient waste to form beautiful petrifications in the hollow. Small branches of trees, roots of grass and other objects, are incrusting with spar, and, together with pillars of the same substance, like stalactites, fringing the banks, form an interesting sight. The top of the cliff is covered with plants, flowers, and shrubs, such as ash, elder, ivy, geranium, wood anemone, lady's mantle, cowslips, wild angelica, meadow-sweet, &c. Pieces of moss, birds' nests, containing eggs, and a variety of other objects, are exhibited to visitors, as proofs of the petrifying qualities of the water. The weight of the water is twenty-four grains in a pint heavier than that of common water. The top of the cliff projects considerably beyond the bottom, and the water is thus thrown to some distance from the side of the cliff, which is of a concave form.

THE
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A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION

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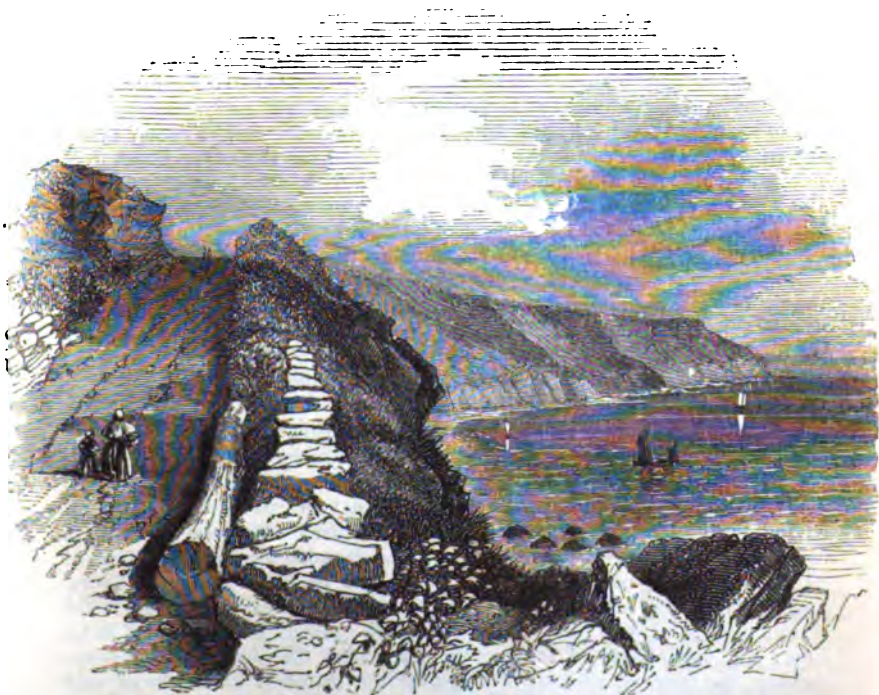
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LUNDY ISLAND.



THE EASTERN COAST (*from the Landing*).

THERE are many odd nooks and corners in England which are seldom visited by tourists, and of which topographical writers know next to nothing, which are yet well stored with objects of interest amply sufficient to repay the toil and ingenuity expended in searching them out. Such a spot is Lundy, that little rocky island with precipitous sides that stands in the midst of the waters of the Bristol Channel like a sentinel, to guard this great sea-road into the heart of England. I had been prosecuting some

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researches among the microscopic zoophytes, and other objects of marine natural history, on the picturesque coast of North Devon, through the early summer; and from the lofty downs and cliffs around Ilfracombe I had often gazed out upon Lundy, a long low wall of purple in the horizon, and wished to explore it. It can be seen only in the clearest weather: many a day I have looked for it in vain, and thus its appearance became associated with lovely mornings and clear golden sunsets; and what I had heard of some peculiarities in its zoology, and what I imagined an insular rock so situated might afford to the naturalist, determined me to take the earliest opportunity of a visit to its cliffs.

Such an occasion was found through the courtesy of Hudson Heaven, Esq., the eldest son of the proprietor of the island, who kindly invited myself and two companions to accompany him in his boat, about to sail. Accordingly the break of day on the 1st of July saw us on the little quay at Ilfracombe, with portmanteau and carpet-bag, collecting-basket, bottles and jars for zoophytes, and some packets of sandwiches and other comforts for the interior organization. We had to wait at least an hour after the time appointed before the tide served: it was rather a cold morning; the sky was leaden, and there was already a tough breeze from the westward, dead against our course, which seemed likely to freshen: the fishermen, moreover, that sauntered out from their hovels at that early hour, assured us, to keep up our already wavering courage, that there was a pretty heavy sea running outside. However, we were booked for the voyage, and were not going to retreat because it might have a dash of adventure: indeed, the heroism of one of the party was so strung up by the exciting prospect, that he boldly intimated his purpose of joining the search for Franklin after this expedition.

So we stowed ourselves at length in the stern-sheets, the peak was hoisted, the jib was set, the mainsail trimmed; another pull upon the peak-halyards, the jib and main sheets tautened, and here we were with the red sails as flat as a pancake, facing the westerly breeze, and pitching and rolling in the wash of the sea, which is always more than ordinarily uproarious off the harbour's mouth just at the turn of the tide.

The little boat ploughed and dug through the green and foaming waves, quivering now and then as one struck her broadside in a way that rather put a damper upon our mirth. Before she had made one short tack, and before we were well abreast of the flag-staff that crowns Capstern Hill, an envious sea curled up its green head right over the quarter, and broke upon us, drenching us as completely as if we had invaded its domain instead of its intruding into ours. A pretty pickle this to begin an eight hours' voyage withal and very comforting to the stomachs, already receiving awful warnings of what was about to be. We all grew as mute as mice in no time: the enthusiasm of science, no more than the pleasure of holiday-making, can bear up with dignity against the manifold inflictions of cold and wet, cramped limbs, and the perpetual eversion of that internal organization I spoke of just now, which no sandwiches could soothe. But let that pass.

The approach to the island was interesting, especially as our kind cicerone, Mr. Heaven, pointed out the different objects of interest, and gave us legendary and statistical information. Its form somewhat resembles that of an oak-leaf, being considerably sinuated in outline; and the narrow peninsula of Lametry, constituting its southern extremity, with Rat Island as its termination, we may call the footstalk of the leaf. This end of the

island curves round to the eastward, partially enclosing a little bay with good anchorage, pretty well sheltered from all but easterly winds. About twenty vessels were lying here at anchor, of various nations and of all sizes, from the stately three-masted ship to the tiny fishing skiff. On our expressing surprise at seeing so many craft, Mr. Heaven assured us that often there were many more. "I have known," said he, "three hundred vessels in sight at once. On one occasion the wind had hung long from the westward, and had kept in the outward-bound craft: it at last changed and allowed them to sail, but suddenly shifting again, and coming on to blow heavily from the old quarter, a hundred and seventy vessels put back and anchored in our little roadstead, all vessels of size, not counting boats."

The only landing-place on the whole island is in this bay; and here the Trinity House have made a good carriage-road from the beach up the precipitous hill-side to the lighthouse, which occupies the highest point, and which I shall speak of more particularly presently. Up this zig-zag road, which is substantially built with granite in the lower part where it is exposed to the action of the sea in heavy gales, we climbed, eager to find the means of satisfying our quickened appetites, yet not indifferent to the charms with which nature had embellished this lonely place. The sides of the road were gay with flowers of many kinds. The common mallow, the milfoil, the weld or wild mignonette, looking like its pleasant namesake, but scentless; the flaring ox-eye daisy, the figwort, with its brown bead-like blossoms; the navew, loose and sprawling, but bright in hue; ragworts and sow-thistles, and elder bushes with snow-balls of bloom, the nearest approach to a tree which the island can boast; these, with minor weeds and grasses and ferns of several kinds, fringed the footpath. The perpendicular side of the road, where the shale had been scarpd away, and the crevices of the stones, where it had been faced with a rude wall, presented other and more attractive features. The kidney vetch, or lady's finger, displayed its heads of delicate flowers in profusion, pale yellow fading into cream colour; and the scarlet-tipped blossoms of the little bird's-foot lotus, that characteristic plant of our seaward downs and precipitous slopes, were not less abundant. From between the loose stones the navelwort shot out its singular spikes, each springing perpendicularly from a bed of succulent shield-like leaves, and fringed to its tall summit with little drooping bells of yellowish white. The situation seems particularly agreeable to this plant, for we found it in many parts of the island growing in great luxuriance, some of the spikes eighteen or twenty inches in height, and thickly covered with flowers. The herb Robert, the bitter vetch, and the purple sandwort, displayed their unobtrusive but pretty blossoms among the herbage; and the crimson bells of the common heath, already opened, were fringing the edges of the slope above our heads. The sheep's-bit scabious, a lovely flower, with globose heads of azure blue, was not wanting; and the surface of the rock was covered here and there with broad patches of the white stone-crop, whose white or rather carnation-coloured, starry blossoms were conspicuously beautiful. But more prominent than all was that noblest of British flowers, the tall foxglove, flourishing in special luxuriance and beauty, while fragrance was diffused from scores of honeysuckles that climbed and sprawled on every side.

All these and other plants, some greeting us as old acquaintances, others possessing the charm of comparative novelty, were an agreeable contrast to the desolation and barrenness we had pictured to ourselves as reigning here. And as we proceeded we saw pleasant traces of feminine taste, for gentle

hands had been busy in sowing seeds of stocks and wallflowers, and nasturtiums in the nooks of the rock, which were now beginning to spread the beauty of their foliage over the ruggedness, and gave promise of additional beauty by and by.

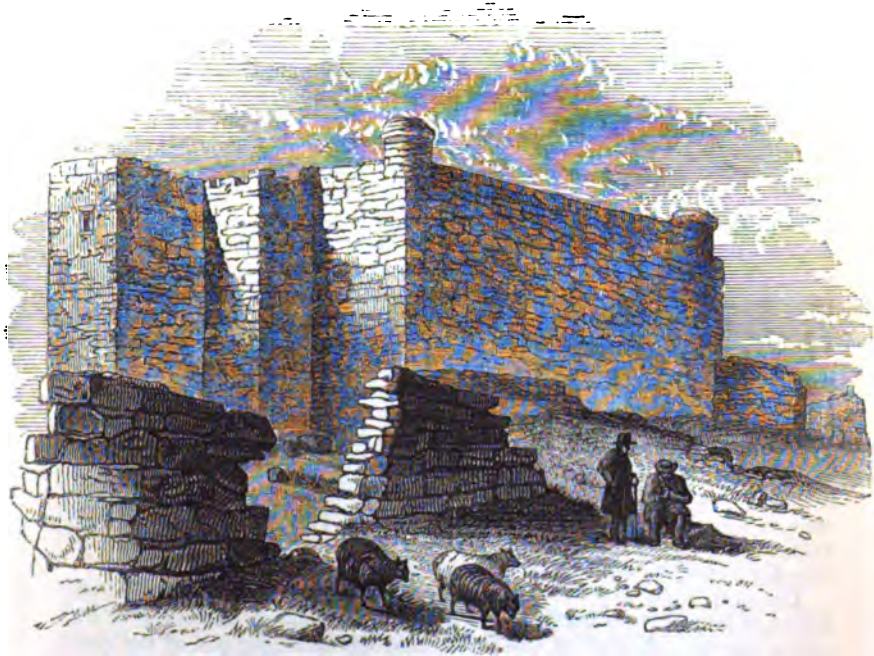
The island is the property of William Heaven, Esq., who has erected a handsome mansion above the landing-place in a sheltered hollow, which commands an extensive view of the opposite coast of Devon and of the broad Bristol Channel. Here he resides with his amiable family, exercising a patriarchal rule over his little dominion. Two thousand acres form his realm; of which a considerable portion is under cultivation, and is let to a tenant farmer, John Lee by name, familiarly known as Captain Jack, an excellent, worthy man. In his earlier days he was bred to the sea, but now he ploughs the land. At his house, "The Farm," visitors are entertained; we found accommodations decent (for the circumstances), a well-supplied table, attendance prompt and kindly, and charges moderate. With the exception of the lighthouse-keeper, who with his family and subordinates occupies a substantial stone house at the foot of the lighthouse, on the western edge of the island, rather remote from the Farm, the rest of the inhabitants are labourers, and their families employed in husbandry, or in the mechanical occupations that minister to it.

The whole population amounts to about fifty souls, not one of whom is a native of the isle: a child has not been born here within the memory of the present generation; the women invariably going over to the mainland when their confinement approaches. No medical man resides on the island; but a fire lighted on a particular summit summons a boat in cases of emergency, from the little village of Clovelly, just opposite. This place, itself a spot of romantic beauty, one of the gems of the North Devon coast, is situated in Barnstaple Bay, just within Hartland Point (the *Herculis Promontorium* of Ptolemy), and is distant about five leagues from the end of Lundy. A boat comes across every Friday, bringing the week's accumulations of the post-office, and returns with any letters that are ready. Other communication with the shore is only casual, as when the Pill boats come down as far as this from their little pilot village at the Avon's mouth to look out for ships, and anchor in the bay; or when a skiff-load of lobsters is run up to Ilfracombe to be shipped, per steamer, for Bristol.

A mutton-chop, improvised by Captain Jack's larder, revived our vigour, and we sallied out towards the south end to reconnoitre. A walk between stone fences, enlivened by many interesting plants in flower, some of which I shall mention presently, led us to the ruins of the castle, bearing the name of the De Mariscos, the earliest possessors of the island on record, who held it as early as Henry the Second's time. A legend is told of one of this family, illustrative of the bold lawlessness of the times, as well as of the natural strength of this island. It rests on the authority of the contemporary historians.

In the year 1238, William de Marisco conspired with a knight of the palace to murder King Henry III. The act of assassination was entrusted to the courtier, who gained access to the royal chamber by climbing up to the window. It chanced, however, that the king lay elsewhere that night, and the conspirator, thus baffled, sought his victim in other chambers. Ignorant whither to go, he at length bursts into an apartment with his dagger drawn in his hand, where sits a lady of the court reading. An alarm is instantly raised, the servants crowd in and the villain is taken. He, poor wretch, expiated his intended crime by being drawn asunder at Coventry by

four horses ; while his coadjutor, Marisco, fled to his island of Lundy, strengthened his castle, fortified the accessible parts of the cliffs, and became a pirate. For some years he did much damage, ravaging the neighbouring coast, and intercepting ships ; but at length, being surprised by the king's forces, he, too, suffered death.



LUNDY CASTLE.

The walls of the castle and the ancient keep remain in integrity, and have been turned, by the addition of new walls, into labourers' cottages, the chimneys of which peep out from the ruins, so as greatly to mar the effect.

A woman was standing at one of the doors, and children were playing round : we shuddered to see the little things run and jump on the edges of the precipice, and babies carry babies a little younger than themselves into places where a single false step would have plunged them fathoms down ; and we spoke to the good woman about the danger. Such, however, is the power of habit to create indifference, that she actually appeared not to understand what was meant. Great mixens outside the doors, strewn with the shells of enormous limpets, and with those of the green conical eggs of guillemots, afforded amusing evidence of the favourite food of the poorer inhabitants of the island.

A few rods below the castle, where the greensward slopes steeply down to the south-east, a sort of doorway in the hill-side attracted our notice, and we looked in. It was the entrance to a large chamber excavated out of the solid rock, and bore indubitable proofs of its being a work of art. The grey shale of which this end of the isle is composed is friable, and easily removed ; and time and labour alone would be needed to form such a cavern

as this. A long slab, resting on two upright ones for joints, made the doorway. The cave is now used as an occasional stable, but tradition assigns a very different purpose for its construction. It is called Benson's Cave, and its history is as follows:—

Exactly a century ago the member of Parliament for Barnstaple was one Thomas Benson, a man of more talent than character. He was the owner of a ship called the 'Nightingale,' which having been lost on her outward voyage to Maryland, he claimed the insurance. Before it was paid, however, one of the crew of the sunken ship gave information which led to the exposure of an artfully-planned piece of villany. It was proved that Benson, having shipped a valuable cargo of linen and pewter, with a ballast of salt, gave secret orders to the master to remain off Lundy, whither he repaired. The crew were here tampered with, and, by bribes and threats, were induced to comply with the proposed scheme. The linen and pewter were landed and concealed in this new-made cavern, excavated by Benson for the express purpose. The ship then sailed; but meeting in the mouth of the channel a homeward-bound vessel, the master thought it a good opportunity to execute his purpose. He went below, bored a hole through the bottom, and knocked down the bulk-heads that the water might get at the salt. But the sea pouring in with great rapidity, and the strange vessel being yet a good way off, it was thought they might possibly not be able to reach her. The mate then fired the ~~cask~~ stores with a candle, having first stopped the leak with a marling-spike. The smoke and flame were soon seen on board the approaching ship, which presently bore down, and taking the crew on board, carried them into Clovelly. Protests were sworn at Bideford; but meanwhile the boatswain, conscience-stricken, gave information of the robbery. The arch-villain Benson escaped to Portugal: his subordinate, the master, Lancey, was hanged; and the cavern remains to this day to perpetuate the remembrance of their crimes.

The steep sunny slopes of this part of the island were gay with the purple bloom of the cinereous heath, and with the brilliant masses of blossom of the yellow broom. A bush of this latter kind was springing out of the very lintel of the cavern doorway, and its long spikes of flowers were elegantly pendent over the entrance, the darkness of the interior throwing out into fine relief the rich golden mass of bloom. The thorny, or Burnet-leaved rose, was trailing its lengthened and tortuous branches over the ground, nowhere rising to more than a few inches in height: we were charmed with the beauty and delicacy of its spotless cream-coloured blossoms, and still more with their exquisite fragrance. We afterwards found this plant quite characteristic of the botany of the island.

From these slopes we looked down upon, but did not explore, the peninsula of Lametry, a mass of land precipitous on every side, and joined to the main of the island by a ridge of rock running up to a sharp knife-like edge. Beyond this is an insular rock called Rat Island, from the great numbers of rats that have made it their home. They are believed to feed largely on fish, as well as on limpets and other littoral prey. Lundy is much infested with rats. For a while the old English, or black rat, succeeded in maintaining undisturbed possession of this little nook, against its ruthless exterminator the Norway, or brown rat; the latter, however, has at length found its way across, and is already the more numerous of the two. Mice are quite unknown.

Among the lovelier plants we noticed the little euphrasy, that tiny flower, that derives its name of eyebright, not from its beauty, though few lovers of

flowers behold it without brightening eyes, but from its old reputation for "making old eyes young again," a reputation which, if Milton may be believed, is as old as the days of Adam at least, for the Archangel, about to guide our first parents' gaze into distant ages:—

"The film removed
Which that false fruit, which promised clearer sight,
Had bred; then purged with euphrasy and rue
The visual nerve, for he had much to see."

The little shining geranium, the dwarf red rattle, the yellow tormentil, and that universal favourite the scarlet pimpernel, were scattered in the bordering herbage of the paths; and the walls of uncemented stone were nearly covered with large patches of white stone-crop, and of wild thyme, both beautiful but minute plants, the pink blossoms and downy capsules of the latter particularly noticeable from their abundance. Here also, as well as in other places, grew in great profusion, the wood germander, or bitter sage, whose wrinkled leaves were used during the scarcity of the last war, as a substitute for tea.

Fortunately, however, we were not reduced to any such sorry alternative, for our worthy old landlady's tea-caddy proved well stocked with the real China leaf; and when we got back from our afternoon's stroll, we did justice to its revivifying qualities.

The next morning we started, under the auspices of our courteous guide, to visit the north-end, the resort of countless sea-birds; and in going to it we skirted along the eastern side. Viewed from the road above the landing-place, this line of coast presents a curious appearance. The grey cliffs rise nearly perpendicularly from the sea, to a height varying from fifty feet to as many yards; then a broad green slope very even and regular, forming an angle of 45° with the horizon (less or more), carries up the elevation to four or five hundred feet, and there is the flat summit. The regularity of these slopes is remarkable, and one is ready to fancy that some gigantic carpenter has been at work, bevelling off the edge with a plane. From the sea the deep rich verdure of this inclined surface has a very attractive appearance, and when looked at narrowly, has a roughened texture, like that of a close-grown forest: this is owing to the nature of the herbage, which consists almost exclusively of the common brake-fern. In winter, as we were informed, the brown hues assumed by this plant in decay, give to this side of the island a russet tint particularly rich and mellow.

One of the first things that attracted our attention, and that continued to excite interest, was the extraordinary abundance of the cocoons of a small species of hawkmoth, known to collectors as the Burnet-moth. In the open waste places, the stalks of grass and the slender stems of herbaceous plants were studded with these little appendages by hundreds, or even by thousands. The cocoon is a pretty object, it is of a spindle shape, that is, swollen in the middle and pointed at each end: it is formed of silk compacted into a papery substance, bright yellow and glistening, and is attached to the grass perpendicularly all along one side. Some of them which I opened displayed the caterpillar as yet unmetamorphosed; an inert little creature of a pale yellow, studded with rows of close-set black spots; others contained the black shining chrysalis, in which I detected a curious habit. I had collected a dozen or two stalks with cocoons, and had brought them into my bedroom. At night, while sitting reading, I perceived some faint creaking sounds proceeding from them, and by bringing each in succession close to my ear I was enabled to find out the individuals from which the

noise issued. Then holding the cocoon between the eye and the light, its semi-transparency permitted me to see the enclosed pupa busily engaged in revolving on its long axis, and the sound was caused by the grating of its rings against the papery walls of its prison.

We found multitudes of the moths sitting on the herbage, or flitting hither and thither on feeble wing: many were drying their half-expanded wings in the morning sun; some were pushing their way out of the upper



THE BURNET-MOTH (*in its various Ages*).

extremity of the brittle cocoon, previously to bursting the chrysalis skin, and others were emerging from the projected pupa, so wet and shrivelled that it seemed marvellous that those crumpled and distorted wings should in an hour become the elegant organs which we afterwards see them, smooth and satiny, or rather burnished with that rich subdued gloss that we see in what is called frosted gold, dark sea-green spangled with large spots of crimson.

Truly in studying so insignificant and lowly a creature as this, sown broadcast as it were upon the wild moors of this island rock, we cannot help being struck with the lavish pains (to speak according to the manner of

men) that have been bestowed upon it. How elegantly has it been fashioned and trimmed; how gorgeously painted and gilded; how carefully provided for! Surely he must be blinder than the mole who does not trace here

"The unambiguous footsteps of that God
Who gives the lustre to an insect's wing,
And wheels His throne upon the rolling worlds."

We wended our way along a narrow path through the tall fern, occasionally entangled among the tortuous branches of the sweet honeysuckle, or catching our feet in the trailing shoots of the white rose. How different the odour of these two flowers! Both are sweet, but the fragrance of the rose is far superior as an aroma to the sugary scent of the honeysuckle. Tall foxgloves, everywhere springing up from the dense bed of brake, gave quite a character to the scene. I think I never saw this magnificent flower in so fine a condition; several spikes occurred fully six feet in height, straight as an arrow, and densely crowded with their large purple bells. Our friend assured us that he had counted, on a specimen of extraordinary dimensions, the remarkable number of three hundred and sixty-five flowers, exclusive of unexpanded buds. This must have been a giant. We could not have selected a more propitious time for seeing nature in her loveliness; it was what Virgil elegantly calls "*formosissimus annus*," the year in the height of beauty. The opening of July is the season when more plants are in flower than at any other period; the joyous insects are gay upon the wing, and those birds that are so inseparably associated with lovely summer weather are all with us; the atmosphere is apt to be calm and clear, and the deep transparent azure of the sky is reflected with a deeper intensity from the sparkling sea, just as we saw it now, as from our bowery walk we ever and anon gazed out upon the broad main, the white sails scattered over its surface, gleaming in the morning sun, and answering to the fleecy clouds that flitted over the face of heaven.

"Land and sea
Give themselves up to jollity."

Several tiny streamlets ooze out from the upland moors, and trickling down the sloping sides find their way along the chines and gullies to the sea. The spongy nature of the soil, and the matting of the vegetation impeding the flow of the water, cause the courses of these streams to form bogs, difficult to pass, but presenting some objects of interest. In the first that we came to we found two kinds of speedwell, the lovely germander, familiar to every one as the blue-eyed gem of the hedge-bank, and the spiked speedwell, a smaller species and much more rare, and rather to be looked for in chalky pastures than on the swampy borders of a stream. That plant, sacred to friendship, the true forget-me-not, was also abundant here, together with a white variety of the same species that I have not seen noticed.

In another similar brook that breaks out from its darkling bed beneath dwarf willows, the common buttercup of our meadows was growing in company with a much more uncommon species of the same genus, the great spearwort; the latter we found by no means rare in various parts of the island.

The dwarf-furze, a smaller kind than that of our commons and downs, overruns a considerable portion of the central part of the isle, mingling freely with the fine and the cross-leaved heaths, and the ling or true heather: this last was not indeed yet in blossom, but the true heaths were in full

flower. The white-blossomed variety of the cross-leaved heath we found not uncommon, readily distinguished from the ordinary state of the plant, not more by the pure creamy-white of its bloom, contrasting with the rosy purple hue which is normal, than by a pale yellow-green characterising the foliage, by which patches could be discriminated almost as far as they could be seen.

How delightful it is, when tired with exercise, to throw one's weary limbs upon the soft yet springy heather, which yields and yet sustains, with the elasticity of a hair mattress! The warm sun pours down on you, it is true, but the cool breeze plays about your face and tempers the ray: and as you gaze upward into the unfathomable sky, and feel its pure cloudless azure penetrate your soul, and inhale the aromatic odour of the opening buds and the mingled perfume of a thousand humble flowers around, you fancy, for the time at least, that no couch in the world could yield you so refreshing or so delightful a repose.

Hereabouts we obtained a view of the beach far below, covered with huge rounded boulders of granite, all invested with a coating of green seaweed, for the tide was now at its lowest. The eye, roaming over the intermediate slope of fern, so feebly appreciated the distance, that it seemed an easy matter to run to its edge, and then scramble down the face of the perpendicular cliff, which appeared only a few yards high. The boulders upon the beach, too, appeared not too large or weighty to be turned over by hand, and I was actually meditating an attempt to explore the inviting locality, in hopes of finding many Annelides and Crustacea under those stones. But our more experienced friend assured us that those green-clad boulders were masses of many tons weight; that the cliffs were from fifty to a hundred feet high, and so inaccessible that it would be utterly impossible to ascend or descend them unassisted. "Not long ago," said he, "a vessel came on shore in that very spot: walking here one morning early I discovered her on the rocks; she was a Norwegian brig in ballast, outward-bound; all hands were saved, but it was only by means of ropes passed down to them by our people, by which they were hauled up those cliffs that you think so easy to climb."

We now came to the half-way wall, so called because it cuts the island transversely in the middle. Its eastern extremity, close to which we stood, terminates in a huge mass of granite, on which a cubical (or rather parallel-sided) block, about fifteen feet high by eight wide, stands. It was formerly a true logan-stone, being so poised by nature that it could be rocked by the hands of those who had nerve enough to stand on its narrow and lofty base, as our friend had often done. Now, however, it has slipped out of its equilibrium into a crevice, and is immoveable; the action of the weather, as is supposed, having worn away its base.

The paths through the heath, and the open spots in many places, showed the power of atmospheric action to change the condition of the solid rock. These were covered with a sort of gravel, composed of white fragments about the size of peas, very uniform in appearance, which, when examined, proved to be nodules of quartz, liberated by the natural disintegration of the granite. A large quantity might be collected with little expense of time or labour. An attempt was made to use the granules as gravel for garden walks, for which their regular size and form, and their pure white colour, would have made them very suitable; but the absolute want of any adhesive principle caused them to be rejected on trial: in technical phrase "they would not *bind*."

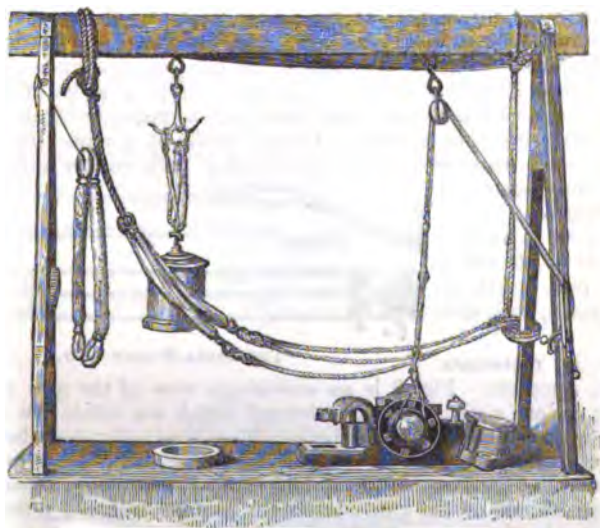
HISTORY OF CAOUTCHOUC.—No. IX.

Among the latest applications of the elastic force of caoutchouc, attention was directed by Mr. Brockedon in the lecture before quoted :—

1. To Mr. E. Smith's patent application of tubes of vulcanized caoutchouc as *torsion springs* to roller blinds,—adjusted to the heaviest external blinds of houses, or the most delicate carriage blinds ; and equally applicable to clocks and various machines as a motive power.

2. To the *raising of weights* (Mr. Hodges' patent application).

The history of this invention has been thus given to the writer by Mr. Brockedon. Some woodmen in the employ of the inventor had felled a large log of timber, but found themselves unable to apply the necessary mechanical force for raising it on to the timber-carriage. A negro, observing the difficulty, hastily collecting a number of ropes, climbed up a tree, and tied one end of several ropes to some large elastic branches. This was done with other trees, and the other ends of the ropes were fastened to the log. One by one the ropes were tightened to their utmost limit, the elastic force of each branch being thus accumulated and made to act on the log ; at last a sufficient number of branches were secured, and their collective elasticity at length raised a mass of timber which no combination of levers in their possession was able to accomplish.



ILLUSTRATIONS OF THE CUMULATOR OF MR. HODGES.

Short lengths of caoutchouc (termed by him vulcanized *power-purchases*) are successively drawn down from or lifted to a fixed bearing, and attached to any weight which is required to be raised ; when a sufficient number of these power-purchases is fixed to the weight, their combined elastic force lifts it from the ground. Thus ten purchases of the elastic strength each of fifty pounds raise five hundred pounds. Each purchase is six inches long and contains about an ounce and a half of vulcanized caoutchouc.

These ten purchases, if stretched to their limit of elasticity, not of their cohesive strength, will lift six hundred and fifty pounds. This power—the accumulation of elastic force—though it obey the common law of mechanical powers, differs enough to be distinguished as a new mechanical power.

The same principle is applicable to relieve boats in tow from the strain they are subject to, and to easing the strain on ship's cables, especially where several boats are towing one vessel.

The accompanying cut represents the arrangement shown at the Great Exhibition by Mr. Hodges, for the purpose of illustrating his ingenious principles.

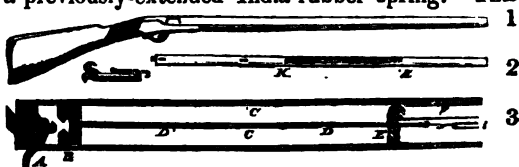
3. Applied as a *projectile force*. A number of power-purchases, attached to the barrel of a gun constructed to project harpoons, will exert a power, if suddenly relieved, proportioned to their aggregate forces.

Similar contrivances have been made for projecting balls two hundred yards or more: a charge of No. 4 shot can be thrown one hundred and twenty yards. On the same principle a bow was contrived in which (reversing the usual form) the string alone was elastic; this bow throws a thirty-inch arrow one hundred and seventy yards.

There were also exhibited adaptations of this material, for restraining furious horses,—for slinging horses whose limbs have been broken,—for enabling bed-ridden persons to assist themselves,—for strengthening feeble joints, and many other new and valuable purposes.

Among other illustrations of the elastic force of vulcanized caoutchouc which were exhibited in Hyde Park, was what was called by its inventor the India-rubber air-gun. The novelty of this gun consists in the absence of a reservoir of condensed air, or separate pump, or valve of any kind; the requisite pressure of air for one discharge is instantly obtained from a pull of the trigger, by means of a single stroke of a condensing syringe, which is acted upon by a previously-extended India-rubber spring. This gun is represented in the annexed cut.

Flattened bullets, specimens of its effect on an iron target at twenty yards, were also shown.



THE INDIA-RUBBER GUN.

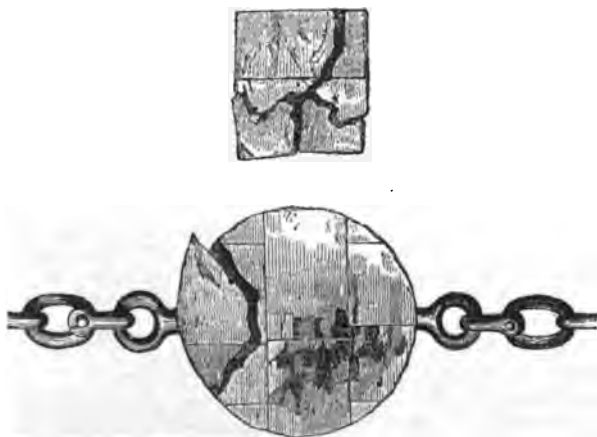
Fig. 1 represents the gun complete. Fig. 2 is an underneath view of the gun unstocked, showing a slot (κ κ) in the case, through which are visible the piston-rod and bead, with a portion of the India-rubber hereinafter described, and in the state in which they appear after one discharge, and prior to preparation for another. Fig. 3 represents a longitudinal section of about one-half of the breech end of the gun unstocked: A is the trigger; B the piston; C C, the inside of the pump barrel or condensing syringe; D, the piston-rod; E, the pump top, perforated in the centre for the piston-rod to work through, and at the top edge for the reception of the end of the shot barrel, F; G is the bullet, held in its present situation by a slight contraction of that end of the shot barrel. I is one end of the India-rubber spring, attached to the hooked end of the piston-rod, and similarly attached by its other end to a hook in the inside of the muzzle end of case. The section shows the gun in act of discharge; the trigger being just pulled, releases the piston, which, by the reactive power of the India-rubber spring, rushes to

the opposite end of the syringe, condensing the air therein, which air forcibly ejects the bullet.

To prepare the gun for discharge, the ball, if the barrel be a rifled one, must first be rammed down; an adapted hook must then be introduced into the slot (κκ), between the bead and the hooked end of the piston-rod. The butt-end of the gun must then be placed against the top part of the thigh, and the hook pulled with both hands in the direction of the breech, until the trigger, by means of the small spring at its back, catches the piston. With a smooth or unrifled barrel, four hundred discharges per hour can be made; the bullet in that case requiring no ramming, it being drawn down the barrel by the partial vacuum caused by drawing down the piston. The spring consists of from sixteen to eighteen India-rubber bands.

Among other applications of caoutchouc, a very important one has been, the manufacture of a cement, called by its inventor "Marine Glue." This substance, which appears to be gradually acquiring public value, consists of caoutchouc, gum-lac, and naphtha, mixed together in various proportions; its composition being, however, under the protection of a patent. Its principal value is expressed in its name, for it is chiefly of use for the timbers of ships and boats. From a pamphlet published by its inventor, we make the following extracts, illustrating the properties of this singular compound and its applications:—

"The timbers which compose a ship are exposed to constant strain from the winds, the waves, and other causes, from the time the ship is launched until she is broken up. What then are the qualities required in a substance used to join those timbers? It must be a substance insoluble in water, or it would be useless; it must be impervious to water, so as to prevent leakage; it must be elastic, so as to contract and expand according to the strain on the timber, or the vicissitudes of heat and cold; it should be sufficiently solid to fill up the joint and give strength; and it should be



BLOCKS SHOWING THE TENACITY OF MARINE GLUE.

adhesive, so as to connect the timbers firmly together. That these properties are all combined, in an eminent degree, in the marine glue, will appear by a statement of some of the experiments which have been made.

"The cut represents several pieces of timber joined together by the marine glue, with a bolt of an inch and a quarter in diameter attached to them. The day after the marine glue had been applied, the blocks were tested, by means of the hydraulic machine at Woolwich dockyard. A strain was applied to the extent of nineteen tons, at which point one of the bolts broke, but the junction of the wood by the glue remained perfect. Two bolts of one inch and a half in diameter were inserted on the following day into the same block, and the strain was again applied, until it reached twenty-one tons, when one of the bolts was broken; the junction of the wood still remaining perfect, and apparently not affected.

"Numerous experiments have been made to ascertain the best proportions of the mixture constituting the marine glue for various sorts of wood: and in one case, where it was applied to elm, it resisted a strain equal to three hundred and sixty-eight pounds on the square inch, when the wood gave way. These blocks were glued, then immersed in water, and on the next day were taken out and tested.

"In another experiment, several large pieces of timber were glued together, and suspended to the top of the shears in the dockyard at Woolwich, at a height of about seventy feet above the ground. From that elevation they were precipitated on to the granite pavement below, in order to test the effect of concussion. The wood was shattered and split, but the glue yielded only in a case in which the joint was badly made, and after the third fall. This falling from a height on to a hard substance, is a very severe test of concussion. The explosion of a shell has greater power in rending wood, but does not produce so great an amount of vibration. From the elastic nature of the marine glue, it contracts when the timbers to which it is applied are swollen by water, and expands when the timbers shrink from heat, or any other cause.

"A target, constructed with oak and pine barks of timber, was joined together with marine glue, and fired into with cannon-shot; afterwards in its centre a shell was exploded. The result in this case, after the target was almost totally destroyed, proved that the tenacity of the glue exceeded that of the timbers.

"To show the facility with which the marine glue might be used in cases of shipwreck or dangers at sea, and in the construction of conveyances for men and ammunition, or other stores, across rivers, when engaged in warfare, a boat was constructed, twelve feet long, four feet wide, and twenty inches deep, weighing two hundredweight, and folding up like a fire-screen. The time occupied in unfolding this boat, fixing the hooks and eyes, applying the glue to about one hundred feet of seams, launching, rowing with four persons on board to the middle of the river off Woolwich dockyard, and bringing the boat again on shore, was only thirty-five minutes; without leaking one drop of water. This boat had two air-tight compartments; one in the fore-part of fifteen cubic feet, and one in the stern of two and a half cubic feet. This boat still remains in the Woolwich dockyard, and may be seen by those interested in the subject."

The marine glue is also very useful for uniting glass together; and the writer has constructed a glass trough of considerable capacity, every joint of which is united by this cement, and remains perfectly water-tight. The precautions necessary in uniting it are, to have the glue thoroughly melted, and the surfaces to be united as hot as possible. The joint is then almost inseparable.

IT'S OF NO USE.—No. V.

RICHARD now worked constantly at the business, and with Johnson. The first morning he joined him, a spectator interested in the sight would have been amused by what he might have observed. Johnson was seated cross-legged on the board, a coat at which he was at work being on his knee.

"Mother has told you," said Richard, "that I am going to follow the business, hasn't she?"

"She has," replied he, "and I am glad of it; the sooner you can take my place the better."

"What, are you tired of it?" asked Richard, "and want to get away?"

"No," replied he, warmly; "but any expense that can be saved that mother of yours, will be a pleasure for me. I'll teach you all I am able, and I can only hope that you will never in after life feel the pain that I often do at the sight of goodness on one side and all that's bad—," he checked himself; "often and often do I wish that I could work for her without any wages at all."

During this time Richard had been eying the shopboard, as if some lingering repugnance to mount it remained; but as Johnson uttered the last words, he laid his hand on it, and springing up as he said, "You good fellow!" he seated himself by his side, and was regularly installed in office. Nor from this moment did he ever regret having thus made up his mind. He was cheerful and happy, quickly understood every instruction Johnson gave him, became very soon a great assistance in the business, and his mother's smile promised to return with something of its former freshness.

Collins would occasionally take an interest in what was going on, and would, on particular occasions, superintend the work, a great advantage to Richard, and a comfort to his mother. It so happened that Collins had been very steady for nearly a month, at the end of which a person of the first respectability in the place died. His family was large, and the sons were all customers of his, in consequence of which a large order was received. Collins selected the cloth, saw each article cut out, omitting no instruction that was necessary. The mournful occasion for which these clothes were required, contrasted singularly with the thankful and almost cheerful heart of one at least who was to prepare them; not that Jane could be insensible to any one's woe, and the deceased was a person whose loss she regretted. There may be some, therefore, who will not understand her feeling; not so the wife, who having often wept over the intemperance of a husband, beholds in him a gleam of returning sobriety, and still clinging to a hope which has again and again deceived her, augurs approaching happiness from the change: should the brightened eye of Jane give offence to thousands, it will neither surprise nor shock her.

They had proceeded well and quickly with the work, and without any extraordinary exertion could fairly hope to have it completed in very good time, when, to the dismay of the party, a message was received from the family that an alteration in the day fixed for the interment had been necessary, and that the order must be taken home a day earlier. Collins went immediately in search of Brown, without whose assistance it did not seem possible to get all in readiness, and even with his aid they would be obliged to work early and late. Brown quickly made his appearance, but Collins returned no more till quite evening. He had met a friend, as he called him;

and that friend prevailed upon him (if indeed a willingness at once to yield may sanction the use of such a term) to join a party of their acquaintance, and the consequence was that home and all its cares was soon totally forgotten.

Brown had gone home at the usual time, but Johnson and Jane, it was agreed, were to work some hours longer. Unfortunately, however, Johnson's young wife was suddenly taken ill, and an earnest entreaty was sent to him that he would not lose any time in coming to her. The poor man was divided between his duty to his employers and his love to his wife, but Jane quickly settled the point for him.

"Go," said she, "your presence may save your wife; there is no support, in the hour of peril, like a husband's tenderness. I will sit up all night, and—"

"And so will I," cried Richard; "so make yourself easy, the work will be done, and you will come to us with a happy face I hope in the morning."

Jane felt rather disappointed by this arrangement. Richard was not a strong youth, and she was never willing to tax his strength more than she could help. In the present instance there was no remedy, and therefore she made no opposition to his proposal. It was ten o'clock before Collins returned. His absence had given his wife great anxiety, and she had listened for his step with an aching heart. Too well did that step, when it reached her ear, confirm the apprehensions she had entertained.

"I will go to the door," said she, laying her hand on Richard's arm. She could not bear that he should see his father in that degraded state, and she hastened to the entrance. Collins rolled in as she opened the door, and making the best of his way to the sitting-room, he threw himself into his chair, and desired that a cigar and a glass of gin and water might be brought him. The first, with great difficulty, she succeeded in inducing him to give up; the latter was granted as the purchase of his compliance. Contrary to her hopes, however, she could not get him to bed; he persisted in remaining where he was, being "as comfortable," he said, "as he wished." An hour passed in this manner, during which time she was unable to do anything to her work, and Richard was left alone. Her patience was wellnigh exhausted. Every moment was of consequence to her, and thus, to waste the time that was so precious, was most trying. Fixing his vacant eyes upon her, and sitting for a few seconds as upright and stiff as a statue, he would reply again and again to her earnest entreaties that he would go up stairs, "I will, I will, only sit down a minute or two." And to sit down she was obliged; he would then fall asleep, and Jane, rousing him with her "Come, come," would take his arm, and endeavour to lead him away in vain: this was so often repeated that poor Jane began to despair of succeeding. At length, however, to her great joy, he complained of being very tired, and following his wife, who dared not trust him with a candle, he reached his own room. Having undressed him, and seen him safe in bed, she quickly returned to Richard, and endeavoured, by double despatch, to make up for the time she had lost.

Collins was no sooner in bed than he fell into a profound slumber, which lasted for about three hours. When he awoke, he was at least sufficiently sobered to know where he was. He spoke to Jane, supposing her to be in bed, then receiving no answer, he felt for her. He now raised himself, and sat up, endeavouring to recollect what had occurred, that he might account for her absence; but it was useless, he could remember nothing distinctly, and in the midst of his reveries he again fell asleep.

The clock struck three, when he again awoke. His understanding was now clearer, though still confused. He spake, as before, to his wife, felt for her; receiving no answer, and being convinced that she had not been in bed, a sudden and most painful suspicion darted into his mind. In an instant he sprang out of bed, and began to descend the stairs. At the bottom of the staircase was a door which opened into the room they usually occupied. He had reached this, when he thought he heard voices; he listened, trembled, and was convinced that he was not mistaken: he lifted the latch of the door very carefully, and through the narrow aperture that he thus made, he endeavoured to take a view of what was passing within.

No, Johnson was not there, and he breathed more freely. Richard only was seated with his mother, and he overheard their conversation without difficulty.

"Now, go to bed, Richard," said his mother, anxiously; "you look sadly tired; we shall get done in time now, I have no fear."

"And leave you alone?" replied he; "no, that I will not."

"But it does not hurt me to work late," said she, "and it will you. To see you ill to-morrow, would be far worse to me than if I do not go to bed at all; do you hear what I say?"

Richard shook his head.

"Pray, say no more to me," returned he, beseechingly; "shall I too lie sleeping, and at ease, and let you be awake for all! I am quite strong now, I am indeed; as strong as—"

"You," he would have added; but the word died on his lip, and in an instant he fell prostrate on the floor. Jane rushed towards him, as did Collins, whose sudden appearance scarcely startled her, so much was she engrossed by the state of her boy. He lay, as usual, as one dead. The sight of his wife, as in agony she wrung her hands, and wept over her son, the extended form and death-like features of that son, smote the heart of Collins, and sobered him completely.

"Jane, Jane," exclaimed he, "what can I do for you?"

"Leave me! leave me!" cried she, in a tone of voice perfectly unnatural to her, and waving her hand to prevent his approach; "would you kill us both at once? cruel, monstrous, as you are!"

They were the first words of reproach she had ever uttered, and let her be pardoned: nature had been taxed too far, the strong barrier of habitual self-control gave way, and the torrent of suppressed feeling swept all before it. Collins looked with amazement at his wife, as well he might. He knew not, could not comprehend, how awful is the bursting of those bands which the stern hand of duty has imposed on the heart; how the pent feelings, once liberated from the bondage that enthralled them, overspread, with uncontrollable vehemence, the once calm surface under which they slept, destroying every trace of self-possession and composure: even as the mighty waters, held in subjection by the art of man, rush, as the massy gates that confined them unfold, into the gulf below, with a force, sudden, tremendous, irresistible. He knew not, too, that in cases like this the violence of such bosoms is transient, that restraint is again quickly restored, and a more profound calmness exhibited.

"Jane!" said Collins, "this from you?"

She turned, looked steadfastly at him, a few large tears sprang to her eyes, which were strangled ere they fell, and, then struggling with herself, she stood composed and sad as usual.

"Help me," she said "to carry him to his own bed."

Her voice fell as strangely on the ear of Collins as her manner surprised him. He obeyed her motion in silence, and together they bore the poor youth to his apartment. Collins then retired to dress himself, and on returning took his station with his wife by the bed. The fit was a very severe one: it was a heart-rending sight to each parent, but particularly to the father. As soon as Richard was sufficiently recovered to enable his poor mother to leave him, she felt herself obliged to do so.

"You will sit by him," said she, speaking to her husband, "won't you?"

"To be sure I will," replied he; "but where are you going?"

"To my work," answered Jane, in a tone so sad, that the heart of Collins thrilled painfully.

"There can be no necessity for that, surely," said he; "stay by the boy, I am sure you wish it."

"The whole order must be sent home by three o'clock," said she.

"Where is Johnson?" asked he; "why did not he stay and help you, and so have given you a few hours' rest?"

"Johnson has been with his poor wife," answered she, "attending, I fear, her deathbed."

Collins ventured to say no more; every word uttered was as a dagger to him; but when he saw Jane with silent anguish kiss her poor boy, and heard the heavy sigh she heaved as she quitted the room, he could scarcely restrain himself. Never had his conduct appeared in the light that it did at this moment; and as he continued to watch by the side of his son, his reflections became almost intolerable. What a spectacle had he witnessed, and who alone was to blame? He loathed both himself and his sinful habit, and felt that he was a just object of dislike to those to whom he ought to be dearest. Nothing, however, was so terrible in reflection as the image of his wife, as she stood with eyes of indignation before him: her look, her voice, her words had sunk deep into his imagination, and produced a sensation that was not less new than agonizing.

Jane came once to look at the now sleeping youth, but she did not speak to Collins, nor he to her: the private feelings of each forbade the interchange of words. Could he have avoided it he would have met the glance of no one; but his presence had been required early in the shop, and he was obliged to appear. He could not refuse to sit down to breakfast, but he took good care to turn away from observation: and no sooner did he feel himself at liberty than he hastily withdrew, not to the haunts of any of his associates, but to a solitary walk by the river-side.

Why he chose that walk, or what were his intentions, he knew not. He was painfully sensible that he was wretched, for the upbraidings of his conscience were loud and unanswerable. He walked at a rapid pace as if he would outstrip his reflections, but in vain; the very endeavour to escape from their grasp seemed to make them more urgent to be heard, and more determined to cling to him. He looked at the water—it rolled on swiftly but in silence, covering its deep bed with a calm surface. He stopped—gazed around—there was no one near: why not at once then get rid of life and every thought that was goading him to madness? He walked hastily down the bank, approached the edge of the river, shuddered, retreated a few steps—then summoning a desperate resolution, he was preparing to give a spring forward, when a hand was laid gently on his arm, and his name was quietly pronounced.

He started violently; a universal tremor seized his frame, and he sank down on the slope of the bank.

THE VINE-DRESSER'S SON.

UNDER a wide-spreading tree, in one of the fertile meadows of Southern Italy, reclined a young peasant boy. His tattered dress and naked feet too plainly bespoke his poverty, while the swine straying round him, feeding on the acorns and chestnuts, showed his occupation to be that of a swineherd. Many would have passed by that sun-burnt ragged boy, without giving him a second thought, but some might have paused to observe the eager attention with which he perused the small book he held in his hand, and to note with pleasure the intelligence which sparkled in his dark eyes as he gave a quick and ready answer to the questions put to him.

Of this latter class was a traveller—by his dress a Franciscan friar. Passing one day near the spot where the boy sat in his accustomed place, he was struck with his studious appearance, and calling him, said, "My son, can you leave your book for a minute, and tell me if I am proceeding in the right direction for the next town?"

"In the right direction, certainly, holy father," replied the peasant boy, "but not in the shortest. There is a path through yonder wood which lessens the distance by one-half."

"Say you so? that is well, for I am weary. Is the path easy to trace?"

"It is rather intricate, father; if you will permit me, I will guide you through it."

"But what will become of the swine, my son, if you leave them?"

"Oh! they will not wander; they are making too good a feast to wish to stray; besides, it is not far, I shall soon be back to them."

"Come, then, let us lose no time in setting off," said the priest. "This is a nice lazy kind of occupation, my son; you doubtless enjoy leading so easy a life?"

"It is anything but the life I like," replied the lad; "however, I trust I shall not always be a swineherd."

"And what, then, should you like to be?" asked the friar, looking with some curiosity on the boy's expressive countenance.

"Oh! above everything in the world I should like to be a scholar!" replied the boy.

"A scholar, should you? Do you know anything of books?"

"Very, very little, father; but that little makes me desirous to know more."

"Cannot your father afford to send you to school?"

"Alas! no; he is a vine-dresser, and so poor, that he was obliged to place me with farmer Malfi, that I might gain a trifle by taking care of his swine."

"What is your name, my son?"

"Felix Peretti, holy father, at your service."

"And so you are fond of books? What causes you to admire learning, Felix?"

"Oh father! methinks learning is such a fine thing! what can give greater joy to the heart than the knowledge of what God has done in this beautiful world, and of what man has attempted to do! As I lie under my tree, father, and look around me, I think how much there is I want to learn. I want to know about the sun, and moon, and stars; and about the cold and heat; and how it is that the acorn becomes a large oak-tree; and

what is the reason that when I go up the mountain, I am not so warm as when I am in the valley, though I am nearer to the sun, and many, many other things; and when I read of learned men, and hear of the fine sermons they can preach, and the wonderful things they can do and say, I feel as if it would be the height of happiness to be a scholar."

"Yes; learning is a fine thing, my son," observed the friar, "it is a laudable desire in you, Felix, to be anxious to acquire knowledge. Have you any books?"

"I have two of my own, father, and I hope soon to have a third, as I have saved up a little store of money from my wages."

"And what are the books you possess?"

Felix named them, and the priest, questioning him on their contents, was much astonished at the accuracy and intelligence of the answers he gave. Greatly pleased with the vivacity and talent of the boy, he said to him at parting, "I am willing to put you in the way of acquiring knowledge, my son, for if I am not mistaken, you will be diligent and obedient. Provided your father has no objection, I will obtain your admittance into the convent where I reside; there you will have plenty of books, and numerous opportunities of learning. What say you?"

"Oh, father!" exclaimed Felix, quite overjoyed, while tears of delight filled his eyes, "how good you are! and I shall be a scholar, the wish of my whole life! oh! you are very good:" and the boy knelt down and fervently kissed the monk's hand.

"And you will be docile to your superiors, Felix?"

"You shall not have in the convent one more docile or more diligent, holy father," said the youth, still kneeling.

"Then receive my blessing, my son," said the priest, laying his hands on the boy's head. "And now go your way to your father, and ask his permission for this step. If you obtain it, as doubtless you will, come to the Franciscan convent, two leagues to the north of the town, and there inquire for Father Selleri. Fare-thee-well."

The friar departed, and Felix, after gazing at him till he was out of sight, turned to retrace his steps. With what a lightsome and bounding heart he ran home that day! with what animation and joy he told his parents of the proposal which had been made to him! how pleased was his father at the idea of his son becoming a scholar; and how eagerly did his fond mother commence patching his clothes, and making such additions as she could to his scanty wardrobe! At length all was completed, and Felix taking leave of his parents, bent his steps, with a full heart, to the Franciscan convent.

And now behold him in a different scene. No longer occupied with the care of swine, he had leisure and opportunity for study, and diligently he applied to it. His thirst for knowledge increased, and the superiors of the convent noticing his unceasing application and perseverance, and at the same time his obedience and submission, gave him much encouragement and assistance. In process of time he was spoken of as a talented and promising scholar, who was likely to distinguish himself. He did so; at the prescribed age he assumed the habit of the priest's order, and acquired great reputation by his sermons. From one step he rose to another, till at length he attained to the dignity of a cardinal. It was a great height to which the little peasant boy had climbed, but he aimed to climb yet higher. He now took the title of Montalto, and retiring from public affairs, appeared to be entirely devoted to study. From that time he

gradually assumed the appearance of a man bending under the weight of years, walked as if very infirm, leaning on a staff, and coughed incessantly. His friends thought he had not long to live.

Pope Gregory XIII. died in 1585. The day following his funeral, the cardinals after hearing a solemn mass, met in conclave for the purpose of electing his successor. Each of them gave in his written vote for the candidate whom he desired to see raised to the pontifical chair, which votes were placed in an urn. It was an anxious time for all, especially for those who particularly aspired to the dignity of the popedom. It happened, however, that most were in favour of an aged cardinal, in apparently ill health. They agreed amongst themselves that he was the fittest of all men to be elected, his easy temper giving them hopes that he would be pope only in name, and that all the authority would devolve on themselves. Besides, he was ill, and advanced in years, and could not long survive his elevation. Accordingly, when the votes were examined, Cardinal Felice Peretti of Montalto was declared duly elected.

His assent being obtained, which was not a very difficult matter, the new pope proceeded to dress himself in his pontifical robes, after which he gave his blessing to the assembled cardinals, while they, in return, saluted him with the kiss of peace. They little knew what a strict censor and energetic reformer they had placed in authority over them!

But a sudden change appeared in the infirm old man. No sooner was the tiara placed on his head, than he threw away his staff, walked erect, and chanted the *Te Deum* with a voice so loud and strong as to astonish all who heard him.

And while the name of the new pontiff—Sixtus V.—was proclaimed to the people from the great balcony of the palace, and the castle of St. Angelo fired a salute, and all the bells in the city of Rome rang merry peals in honour of the event, the cardinals one and all began to fear that they had been outwitted.

It was so; the new pope turned out a very different ruler to what they had expected. Sixtus V. now displayed his real character. The active severity and firmness with which he reformed abuses and administered impartial justice, caused him to be feared and respected. To clear Rome from the hordes of thieves and outlaws which had for a long time infested it, he resorted to summary means. By employing spies and armed men, the sword and the halter, he soon extirpated the troublesome and dangerous brood. The name of "Papa Sisto," as connected with his summary justice, has continued proverbial in Rome to the present day. He embellished and improved the city, and was a generous patron to learning and the fine arts. In the midst of his greatness he did not forget the time when a peasant boy in tattered clothes, he longed for the means of acquiring knowledge. He built the library in the Vatican. The little swineherd, who had read and re-read his two small volumes, was now possessed of one of the finest collections of books in the world. Such was the result of industry, energy, and perseverance.

Not many years since, a gentleman took his two children to visit Rome the Ancient—once the mistress of the world. The contemplations awakened by a view of this wonderful city are indescribable. The contrast between the blue and cloudless sky, and the mouldering magnificent ruins that everywhere meet the eye in Rome, where the proudest works of man are crumbling to the dust, generally engenders in the mind a feeling of sadness. No such feelings, however, depressed the spirits of these light-hearted children.

The boy, with his brave blue English eyes, looked with pleasure and curiosity on the many places he had read of in his Latin books, whilst his fair-haired sister could not repress her exclamations of delight and wonder at all she beheld. They visited the Coliseum, the Pantheon, the Vatican, the castle of St. Angelo, the Capitol, and many other wonderful places in ancient and modern Rome, but they were particularly struck with the church of St. Peter. The vastness, the grandeur, and the exquisite beauty of the proportions of this most magnificent building, excited even in their young minds feelings of astonishment and admiration. On their first visit to it, the sun was streaming brilliantly through the golden-tinted glass, and as its beams fell on many a gorgeous picture in mosaic which glittered beneath them with prismatic hues, and on masses of marble and gilding, giving to them a new splendour, the effect produced was beautiful in the extreme. The English children and their father passed some hours in the church, looking at the paintings, the statues, the mosaics, and the marbles with which it is adorned, and then returning to the outside, gazed up at the immense pile with renewed wonder.

"What a height it is!" exclaimed Herbert; "it seems higher than St. Paul's, in London."

"It is a hundred feet higher than St. Paul's, and two hundred feet longer," replied his father.

"It is a most magnificent and wonderful building indeed," observed Ethel; "but I would rather worship God in our dear old country-church at home, than in such a gorgeous temple as this."

"Why, my child?"

"Because, papa, I think my attention would be distracted by all the beautiful things around me. I might think more of the temple I was in, than of the God I came to worship."

"Most true, Ethel. Be thankful that you have been brought up in the simplicity of the Protestant faith. The poor Italians we saw kneeling there are much to be pitied. As an eloquent writer observes—'From this temple of high beauty and exquisite skill, have any waters issued forth to heal the sickly places of the moral wilderness? Alas! is it not *here* that the slumbers of the soul are most entire—that the despotism of ignorance is the most cruel—that the degradation of the intellect is lowest—and the darkness of the heart the most unbroken and profound?'"

"Papa," said Herbert, after a pause, "there was one thing that struck me as strange in those colossal marble statues; the draperies appeared too fluttering."

"Ah! they form the subject of a standing Roman jest, Herbert. One of the numerous architects of St. Peter's, criticising the statues, asked one of the sculptors, 'What makes your draperies fly about in this manner?' 'The wind through the cracks in your walls,' was the ready answer."

"That was a clever reply, papa; but were there then so many architects? I thought Michael Angelo erected St. Peter's?"

"Michael Angelo was certainly its chief architect, and to him it owes its grand proportions; but as the building was carried on for more than a century, of course there were several to superintend its erection, amongst others Bramante, Raphael, and Fontana."

"Which of the popes began to build it, papa?" asked Ethel.

"Julius II. laid the first stone of the present edifice. After his death and that of his successor, Leo X., the great work, at times, proceeded slowly, till Sixtus V., an energetic old man, determined that the dome

should be finished forthwith. He, accordingly, employed six hundred workmen night and day on the building, the money monthly expended being one hundred thousand golden crowns. The work began in July 1588, and in May 1590 the last stone was fixed in its place. But St. Peter's was not completed till eighty years after that, nineteen popes having successively witnessed its progress."

"I am always amused when I think of Sixtus V., and the astonishment he must have caused the cardinals when they had found him so different to what they had expected," said Ethel.

"Yes, they little thought he had so much energy. He it was who raised that obelisk."

The children turned to look at the Egyptian obelisk, which stood near them. It was one hundred and thirty-two feet in height, composed of a single piece of granite, and on either side of it was a large and splendid fountain, casting, day and night, without ceasing, large streams of water into the air.

"It must have been rather a difficult undertaking to raise it," observed Herbert.

"It was a work of some difficulty, and excited some interest," replied his father. "An immense crowd assembled to witness the operation; and the strict old pontiff, fearful of the least interruption to the workmen whilst engaged in their task, declared that whoever spoke a single word should be put to death on the spot. The work commenced,—the ropes and machinery were all put in motion,—and the column was gradually being elevated amidst profound silence, when suddenly, just at the most critical part of the proceedings, a stentorian voice from the crowd loudly exclaimed, 'Wet the ropes! wet the ropes!' The warning came just in time, and water was instantly dashed over the ropes, which were on the point of taking fire from the friction. When the pillar was safely raised to its place, the bold speaker presented himself before Pope Sixtus, saying he was ready to suffer the threatened punishment for his disobedience."

"But surely the Pope did not put him to death, papa?"

"No, Ethel, that would have been, indeed, unjust. The pontiff rewarded the discerning man, and thanked him for his prompt advice. Sixtus, though very strict, was not cruel."

"I should not think he was very happy as pope after all," said Herbert. "To live in that vast gloomy palace, a solitary old man, without wife or children to cheer him, and feeling that none of the cardinals would grieve much if he died;—I should not have envied the vine-dresser's son."

"But he had power, brother, and that was what the popes liked," observed Ethel.

"Why did he not have a wife, papa?"

"None of the Romish clergy are allowed to marry, my love. But as you say, the pontiffs ever liked power, and like it still."

"Have the popes always lived at Rome?" asked Herbert.

"No; in 1308, Clement V. removed the papal see to Avignon, in France, where it remained for seventy years. Gregory XI. brought it back to Rome. After his death there was a dispute as to who should be the new pope; each party chose one of their own, so that there were two, and eventually three popes all at one time."

"How strange! Was there not once an Englishman who was elected pope?"

"Yes, Nicholas Brakespeare, who was raised to the popedom as Adrian IV.

During his pontificate, the Emperor Frederic Barbarossa came to Rome to be crowned. Adrian went to meet him, but on dismounting from his horse, Frederic refused to hold his stirrup, a ceremony on which the popes always insisted, as a mark of respect for their spiritual supremacy. The pope, on his part, refused to salute Frederic with 'the kiss of peace,' upon which the cardinals, afraid of Barbarossa's wrath, all ran away in terror. For two whole days the dispute was carried on, till at last the emperor submitted, and performed his part in the ceremonial. He had, however, to undergo a far greater mortification in the time of the succeeding pope, Alexander III. Frederic, who was an extremely proud and violent-tempered man, had been excommunicated by the pope, and before he could obtain forgiveness, Alexander obliged him to ask his pardon, and prostrate himself on the ground, while he set his foot on his neck."

"Well, I would never have submitted to that to please any pope!" exclaimed Herbert.

"There is no knowing to what you would have submitted, Herbert, had you acknowledged the pope as your head and ruler. One of our own English monarchs, on his bended knees, surrendered his crown and kingdom to Pope Innocent III., and swore to acknowledge and obey him as his master."

"Ah! the wicked John! I remember you told me it was Innocent III. who established the infamous Inquisition."

"And Clement VII., who excommunicated our Henry VIII. It is well we have nothing to do with the popes now. How many cardinals are there, papa?"

"The number is limited to seventy. As a symbol of their power, the popes wear the tiara, which is formed of three crowns. Boniface VIII. assumed the first crown, Benedict XII. the second, and John XXIII. added the third."

"John XXIII. ! why how many popes have there been, papa?"

"The list is too long for me to remember, Ethel. They first began to exercise temporal authority as popes, or bishops of Rome, about the year 321. Their power at times has been excessive, and their conduct most overbearing and haughty. Great kings and mighty emperors have trembled before them, and submitted to their will in everything, both as regarded their temporal and spiritual affairs. Men's minds were kept in a state of iron bondage; they acknowledged that the pope was infallible, or could not do wrong. Yet this very edifice we are admiring was partly built with the money Leo X. procured by his shameful sale of indulgences."

"I am glad our dear old England has thrown off such a bondage," said Herbert; "I hope she will always continue firm in her Protestant faith."

"I hope she will, my dear boy. God has greatly blessed her as a Protestant country. Woe be to her if she prove unfaithful to the light she has received! When we look around on the ignorance and gross superstition which darken and degrade this lovely but unhappy land, we should be more and more thankful that our fair isle is favoured with the free circulation of those Holy Scriptures which are able to make us wise unto salvation."

GRUMBLING.

EVERY one must daily see instances of people who complain, from a mere habit of complaining.—GRAVES.

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THE BAORAB TREE—(*Adansonia Digitata*).



THE Baobab is a native of Senegal and other parts of the western coasts of Africa, from the Niger to Benin; "a part of the world," says Adanson, "which has always been justly looked upon as the mother of monsters." This celebrated French naturalist resided in Senegal for about five years, and was probably the first botanist who had the advantage of studying the Baobab in its native country. In 1756 M. Adanson communicated a very full account of this remarkable tree to the Royal Academy of Sciences at Paris, and his paper appears to be the chief source whence subsequent

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writers have derived their knowledge of the Baobab. Adanson, also, in a letter addressed to Linnæus, in 1758, describes minutely the distinctive characteristics of this remarkable tree; and makes allusion to its immense size, which has been said to exceed, at least in breadth, that of any other tree in the world.

The Baobab has more the appearance of a forest than of a single tree. It is an immense hemispherical mass of foliage, sixty or seventy feet high, and from a hundred and twenty to a hundred and fifty feet in diameter. The main trunk is very short in proportion to its size, being only ten or twelve feet high, whilst it is at least twenty-five feet in diameter. Golberry, in his 'Travels in Africa,' mentions a Baobab, the trunk of which measured upwards of thirty-four feet in diameter, and was about thirty feet high. The branches are of considerable size, and fifty or sixty feet long; the central branch rises perpendicularly, the others spread around in all directions, the lower ones being nearly horizontal for the greater part of their length, while the extremities frequently trail on the ground, from their own weight. The roots are much longer than the branches. The central root descends perpendicularly to a great depth: the lateral ones extend horizontally, and are sometimes but a short distance below the surface of the ground. Adanson saw one of these roots, of which a great portion had been laid bare by the waters of a river: the uncovered part measured about one hundred and ten feet, and judging from its size he considered that forty or fifty feet might be still hidden. The bark of the trunk and older branches is about three-fourths of an inch thick, of an ash-grey colour, smooth to the touch, and having a shining appearance, as if varnished; that on the younger branches is greenish. The wood is soft, white, and extremely light, being very little heavier than cork. The leaves are very similar in general appearance to those of the horse-chestnut, being somewhat orbicular in outline, and divided into several elliptical lobes, which are entire at the margin, and vary in number from three to seven. They are alternate, and supported by a petiole, at the base of which are two small stipules; these are said by Adanson to fall off as soon as the leaves expand. The leaves of very young trees are undivided and nearly sessile; the digitated leaves first make their appearance when the young plant is about a foot high. The flowers of the Baobab, as might be expected from the size of the tree, are very large. The flower-bud is globose, and nearly three inches in diameter; when fully expanded, the flowers are usually about six inches in diameter. There are generally two or three of these flowers on a branch, each being suspended by a peduncle which springs from the axis of one of the lower leaves, and bears a few scattered deciduous scales or bracts. The peduncle is a foot long, and one-third of an inch thick. The handsome white flowers, like those of many other allied plants, expand in the morning, about sunrise, and close towards evening, thus affording an example of what Linnæus calls the sleep of plants. Golberry observes that the negroes assemble round the Baobabs to watch the expansion of their flowers; and that each flower as it opens is saluted with "Good morning, beautiful lady!"

The fruit is from twelve to eighteen inches long, and six inches in diameter, and is suspended by a peduncle two feet long and nearly an inch thick. It is very hard and woody, and is covered with a greenish down. When cut across, the fruit is found to be divided into from ten to fourteen cells. The seeds are imbedded in a spongy substance, which is whitish in fresh and healthy fruits, and of a reddish hue in those which are badly

formed or very old; as it dries, it becomes friable and separates, either spontaneously or on receiving a very slight blow, into a number of irregular cells, each of which contains a single seed.

The Baobab comes into leaf in June, flowers in July, matures its fruit in October and November, and in the latter month it loses its leaves. It is very common both in the island of Senegal and at the Cape de Verd, and along the coast to Sierra Leone: it is even met with at Galam, which is more than a hundred leagues from the sea. The roots penetrate rocky soils with great difficulty, and if ever so slightly injured they decay; this decay is soon communicated to the trunk, where its progress is very rapid and the tree quickly perishes. Hence it thrives best, and is most abundant, in wet shifting sands, such as those which extend from Senegal to Cape de Verd; while at Galam, where the soil is a hard stony clay, it occurs much less frequently, and is comparatively small.

Besides a general rottenness or decay arising from injuries received by the root, this tree is occasionally subject to another disease, most probably produced by a fungus somewhat similar to that causing the dry rot, which spreads through the woody portion, and reduces it to the consistence of the pith, without either altering the colour of the wood or changing the disposition of its fibres. The bark also remains uninjured, and there is nothing in the external appearance to indicate the operations of the insidious enemy within. When thus affected, the tree is frequently unable to resist the force of the wind. Adanson met with one in an island near Senegal, the trunk of which had been broken asunder in the middle during a gale. The trunk, at the time he saw it, was inhabited by an immense number of large coleopterous larvæ. The disease by which the tree was destroyed had most probably made considerable progress before the insects deposited their eggs in the trunk; at all events we know this to be the case with willows and other trees, which are seldom if ever attacked when in a sound and healthy state.

The rapid decay of a fine specimen of this tree, which grew at Colabah in Bombay, is doubtless to be attributed to the same disease. This tree—one of the finest in Western India—was forty-four feet in circumference. In May 1840, it was vigorous and apparently healthy; a few months after that time the large branches began to fall off, and the ravages of disease proceeded with great rapidity. On examination, the decayed portions were found to be perforated in all directions, like the one seen by Adanson, by the larvæ of a beetle, which were reducing the whole to a powder resembling sawdust. Some idea of the ravages of these larvæ may be formed from the statement, that a piece of the tree three feet long and eight inches in girth, apparently healthy and sound, was found to be so thoroughly perforated that scarcely two inches of solid wood could be found entire.

There is no doubt that the Baobab lives to a very great age, as may be inferred from its enormous bulk. Adanson's observations on some trees which he met with in one of the Magdalen Islands, led him to the conclusion that they were growing there at the time of the Deluge; consequently that they were, at the time he saw them, upwards of five thousand years old. This conclusion, however, is in all probability erroneous; Adanson's arguments being founded solely on the observed annual rate of increase of young trees in height and diameter, not upon an examination of the annular layers of wood in the individual trees in question.

The Baobab tree is found in great numbers, and of enormous size, in the

ruins of Mandoo and its environs, in Northern India. The Mahometans fondly treasure this tree as a relic of Moslem sovereignty, believing it (though mistakenly) to have been brought by the northern conquerors to embellish their imperial residences in the East; and, moreover, that it languishes and dies in any Indian soil but that favoured as the abode of royalty. Sooner, therefore, would they lose an arm than a branch from this boasted tree, although its insidious inroads have done more to complete the ruins of Mandoo than either the hand of time or any other destroyer; rooting itself in every crevice of the walls and roofs, and uptearing with its giant arms enormous masses of masonry. The Baobab, however, is considered, by the most competent authorities, to be indigenous nowhere but in those places on the western coast of Africa which have before been mentioned; though its introduction into Asia, America, and the West India Islands, may be readily accounted for by the fact that the negroes, wherever they go, are in the habit of carrying with them the seeds of such plants as they make use of in cooking, or for other purposes. Amongst these are the Baobab, two kinds of cotton, the tamarind, several sorts of beans, the water-melon, &c., all of which are now found in America, where they have every appearance of being indigenous, although many of them have not received American names.

Various uses are made by the negroes of the different parts of this tree. The mucilaginous emollient quality, common to the Mallow tribe (to which it belongs), resides principally in the bark and leaves; these are dried in the shade, in a free current of air, then reduced to a powder, which is of a beautiful green colour and nearly tasteless. This powder is kept in a dry place in calico bags, and is called *lalo*. The negroes make daily use of the *lalo* in their food, for the purpose of keeping up an abundant perspiration and cooling the blood. The fruit of the Baobab appears to be as useful as the leaves; in a recent state its flesh is slightly acid and of an agreeable flavour, and its juice, mixed with sugar and water, forms a refreshing beverage in pestilential fevers. The fleshy covering of the seeds, when dry, is reduced to an impalpable powder, which was formerly sold as a medicine, under the incorrect name of *terra sigillata*, or Lemnian earth. Monkeys are said to feed on the seeds: these are about the size of a bean, shining, and of a brownish colour, and are made into necklaces by the negroes. The shell of the fruit, and even the fruit itself when spoiled for eating, is burned, and the ley obtained from the ashes, boiled with rancid palm oil, forms an excellent soap.

It has been previously stated that the roots of such Baobab trees as grow in stony ground are liable to injury, and that in consequence their trunks decay and become hollow. The negroes take advantage of the cavities thus formed, and shape them regularly into chambers, or rather vast caverns, wherein they deposit the bodies of those whom they deem unworthy to receive the ordinary rites of burial. Of this class are persons called *guiriots*: these are the poets, musicians, and players, of both sexes, who are hired to preside over and assist at dances and other entertainments, to which they impart much life and spirit by their buffooneries. The negroes regard these people, while living, with a kind of superstitious awe and reverence; but no sooner are they dead, than such feelings give place to horror and contempt: the natives then neither allow their bodies to be buried in the earth nor cast into the waters, imagining that if thus disposed of, the fish in the latter would be destroyed, and that the former would produce no food. By way of averting these evils, the bodies of the *guiriots*

are suspended within the hollow trunks of the Baobab, the entrances to which are closed, with planks, and there, without being embalmed, they quickly dry up and become converted into a kind of mummy.

But it appears that the Baobab is not exclusively appropriated as a receptacle of the dead: the one measured by Golberry was hollow, and used as their hall of assembly by the inhabitants of the valley of Dock-Gagnack. The entrance was seventeen feet high, and faced a lake; the height of the cavity itself was twenty feet and its diameter twenty-one. The negroes had ornamented the sides of the doorway and the interior of the cavern with rude sculptures in relief. The party pitched their tents by the side of this tree, and M. Golberry was so well pleased with the chamber, that he ordered his bed to be placed within it, intending to pass the night there. This however caused so much dissatisfaction among the natives, that he abandoned his intention, although the chiefs would not have prevented him from carrying it into effect. He states that he had no occasion to repent his forbearance, having been afterwards treated with the greatest kindness by the natives.

In Dr. Wilson's notes it is mentioned that he visited one of these trees in India, which the Bairagees, whom he found sitting in its shade, told him was the only one in the world, and requested him to take off his shoes as he approached it, an honour which himself and party declined paying. He was informed that several devotees nightly took up their quarters in the hollow trunk of this tree.

It is also stated that in South America the natives hollow out the trunk of the Baobab and use it as a habitation, and that the tree thus hollowed continues to grow and flourish so long as the sap-wood and bark remain. The wild bees of Abyssinia are also reported to deposit their honey in this tree, and that the honey stored therein is the best in the country.

The above are among the most important facts hitherto brought to light respecting this wonderful tree, which yet presents much scope for interesting investigation to the naturalists who may be fortunate enough to meet with it in situations favourable to its naturally magnificent development.

IT'S OF NO USE.—No. VI.

"You are ill," said Mr. Edward Nelthorpe, the curate of the town, seating himself composedly by the side of Collins. "I hope I have not alarmed you." He paused a few instants, and then quietly added—"I wish to know which is the nearest way to Morton?"

The misguided man, relieved of his first apprehension by Mr. Nelthorpe's manner, began to recover himself. He believed that his intentions had not been suspected, and the shame of detection in some degree subsided. It was impossible for him, however, to rally entirely; he struggled hard to overcome his emotion but could not; he endeavoured to return an answer, but his voice failed him; he gave a deep sigh, and burying his face in his hands, and placing his head between his knees, he burst into tears.

Mr. Nelthorpe did not offer to interrupt him, but allowed his overburdened heart thus to relieve itself. Seeing the unhappy man at length more calm, he addressed a few words of kindness to him, professing, whilst he had no desire to pry into any person's secrets, to be willing to receive any communication from him that he might be disposed to make.

Collins, however, was wretched rather than penitent. He was humbled

in his own estimation, but he yet wanted the courage and the virtue to humble himself in the esteem of another. He thanked Mr. Nelthorpe, giving him as the cause of his distress the illness of his son, and he hinted at the state of his affairs, which he indirectly ascribed to the loss of the use of his hand, and the expenses thereby entailed upon him and his family.

Mr. Nelthorpe heard him without interruption. He well knew the life Collins led, but it was his aim to win confidence instead of repelling it, which he was aware would be the certain result of an apparent anxiety to effect his purpose. Unwilling, however, to leave him alone, he again expressed his wish to learn the nearest way to the next village; and hearing, as he already knew, that it lay through the wood, he asked Collins to accompany him, and guide him through its intricacies. It was impossible for the latter to refuse this request, and the two commenced their walk together. Mr. Nelthorpe now put forth all his powers to ingratiate himself with his companion, and to cheer and soothe him. Collins saw his kindness, and was not altogether proof against it; but he felt it utterly impossible to open his heart fully to him. Enough, however, had been said to break the ice—an understanding was commenced between them, which favourable circumstances might ripen into confidence. They had now reached the other side of the wood.

"Perhaps," said Mr. Nelthorpe, "you will have no objection to wait a little while for me. We were so deeply engaged in conversation as we came along, that I am not sure I could find my way back again."

Collins readily consented to do this. There was a charm in the young divine's manner that soothed and won him, and as he staid by the wood side waiting his return, he reviewed the discourse they had held by the way. He felt more and more impressed with a respect both for Mr. Nelthorpe and his words, and a more salutary shame at his own conduct. Mr. Nelthorpe was rather longer than he expected before he came back, and he expressed his regret at having detained him; but Collins was glad rather than sorry to have some excuse to delay going home. The walk was not less profitable or agreeable than it had been before. As they parted, Mr. Nelthorpe thanked his guide for the assistance he had given him, and bade him remember that if at any time he could be of service to him, or that his counsel or opinion seemed desirable, he would make no scruple in applying to him; "For," said he, "I shall be glad to assist you." And Collins would at that moment have been glad too, if any other tongue than his own could have imparted to Mr. Nelthorpe all that he wished him to know.

The dinner hour was passed when he reached his own home; but as this was nothing remarkable, no notice was taken of it by Jane. He felt rather ashamed to ask for food; but at length telling his wife that he had been to Morton to show the young curate the way, and that he should be glad of something to eat, his wish was immediately met by his wife, not by her offering him the scanty remains of their own meal, but by proposing to him to fry for him some eggs and bacon, which she knew he was fond of.

"But it will be giving you so much trouble," said he; "a bit of bread and cheese, anything will do."

Oh! who can tell the effect of a few words of kindness on the heart of a suffering wife. Had Collins spoken harshly, or shown by his manner that he had been indulging himself as usual, Jane would have obeyed him with unmoved though sad countenance. She now turned gently towards him, the large tears starting into her eyes.

"It will be no trouble," replied she; "I will do it directly;" and she prepared with alacrity to perform what she intended.

Collins could not look either at her or his son. He spoke kindly to each, inquired whether the order was completed, and having heard that it had been carried home in good time, he expressed his pleasure; but he spoke with averted eyes, and occasionally his manner was constrained and awkward. Jane, however, took no notice of it, and seeing that he avoided any allusion to the previous night, she was careful to do the same. The next day, and for several succeeding days, he came regularly into the shop, taking an apparent interest in all that was going on, and never once leaving his home, though invited by some of his associates to join them. Jane could not but be aware of the alteration, and her surprise was excited by it. She connected the change with the circumstance of his walk with Mr. Nelthorpe, and she thought it possible that the latter might have spoken to him on the subject of his conduct, which was no longer a secret. She prudently, however, made no observation to her husband, nor did she communicate her suspicion to her son, but she thanked God in her heart for the change, whatever might be the cause, and earnestly prayed that it might be something more than temporary.

The accounts had been sadly neglected, and the business mismanaged. Collins had persisted in having the care of the books, and as has been before mentioned, he would receive and spend the money, and forget to give credit for the payment. He had also a very bad habit of paying his own bills by instalments, giving a little to one and a little to another, to stop, as he said, their mouths, and but very rarely clearing off the whole debt. As he took no account himself of these transactions, or at least a very irregular one, advantage was both inadvertently and designedly taken of him. Some bills, therefore, he paid twice, while the amount of others was scarcely diminished. He now, however, set himself regularly to work to look into his affairs. He soon found enough to tempt him to relinquish the task; but there was one by him, who, seeing that he was in earnest, encouraged and assisted him. Jane flinched not, upbraided not; she sat by his side when she was able, recalling payments that she was aware of to his memory, and suggesting the probability of others; but when, at length, order was brought out of this confusion, the balance fairly struck, and the sum of one hundred pounds and upwards shown as the result, she looked at her husband in mute consternation.

"We shall never pay it," cried Collins, "I have ruined you all, and myself too. Jane, you ought to hate the sight of me."

"Never," replied she, calmly but firmly; "a wife may blame her husband when she is forced to it, but, if her own heart be right, she can never hate him. No, let us rather think what is to be done."

"It's no use thinking," said he, despondingly, "the thing's done, and our ruin is sealed."

"Our neighbour would say, no doubt, it's of no use," said Jane, with a faint smile; "but that is no reason that we should. If you could but write—that poor hand—"

"Makes me ashamed of myself: don't put me in mind of it," returned Collins, hastily, and he was silent for a few instants. "But, Jane," exclaimed he, with animation, "suppose I learn to write with my left hand. I thought of it before, but that accursed drink made me too idle and good-for-nothing to follow it up. What think you of that! we don't want for work, thanks to you and Richard, and if the accounts were kept well, and I could get a little something to do—"

"Why, I would not give ourselves up for lost," said Jane, briskly. "I will do my part."

"That you will to the very utmost," cried he warmly; "you have not the heart, Jane, to say if you will do yours; but I *will* do it without being asked, and I will keep my promise—"

"God aiding you," said Jane softly.

"Right," replied he, "and I will seek His aid too. Jane, the religion that is full of words, full of comparisons, full of reproaches, goes for nothing, and for worse than nothing with most husbands. The religion that proves itself in forbearance, in kindness, in *forgiveness*—," he paused, looked her full in the face. "What! you do forgive me (for Jane was sobbing on his shoulder, and he wept to bear her company). Yes, that religion is real,—is, as it comes from God, strong to melt the hardest heart, and to shame the cruel one into tenderness."

The project to learn to write was immediately put into execution. Without seeming to throw himself in the way of Collins, Mr. Nelthorpe had never lost sight of him. He had always some little pretext for calling at the house. Strings were broken, buttons were to be replaced, alterations to be made. All was perfectly natural, and Collins, each time that he saw him, felt more and more drawn towards him. His present intention of learning to write was mentioned to Mr. Nelthorpe, and warmly encouraged by him, he himself promising to assist him.

The difficulty was very soon overcome, and Collins, in a short time, wrote better with his left hand than he had ever done with his right. As he was clever at accounts, and had a great deal of leisure, he would gladly have undertaken the books of any of his neighbours; but there is a jealousy in these matters, especially in a country town—one tradesman feeling it obnoxious that another should know anything of his affairs. This prejudice stood greatly in his way for some time. Still he continued to make the offer of assistance to his acquaintance, and by degrees he obtained occasional employment. At first, those to whom he applied were afraid to trust him; many well knew what his former habits were, however sober he might then appear, and time was necessary to establish anything like confidence in him.

Among those who at first occasionally, and afterwards constantly employed him, was Miles. Instead of making out his weekly accounts on Sunday, as he had been in the habit of doing, he had been persuaded by his mother-in-law, Mrs. Grey, to let Collins have the charge of them. The good woman had long urged the impropriety of the practice as an infringement on the duties of the Sabbath; but Miles had declared he had no other opportunity, and she had deemed it better to withhold further remonstrance. The present arrangement was in every respect satisfactory to all parties, and Collins gradually acquired not only the good will he had formerly enjoyed in the family, but as nearer intimacy showed his worth, the cordial esteem of all. He had made no scruple of communicating the state of his affairs to Miles, the fearful sum of money that he owed pressed heavily on his spirits, and though he had succeeded in lessening the amount, he was subject to much inconvenience and mortification.

The children were all gone to bed, and Miles, his wife and mother-in-law, were sitting by the table on which they had just had their supper, where now stood a little pitcher of beer, a glass and a pipe.

Miles took the last in his hand, and as he leisurely filled it with tobacco, he murmured:—"I have something particular to say," and the tobacco was pressed harder, "something I want to consult with you about."

Martha opened her eyes wide, and looked at her husband. "Consult with us about," she longed to say, but she checked herself and let him proceed.

The pipe was full, Miles drew the candle a little nearer to him, and applying the bowl of the pipe to the flame, and giving two or three puffs, the operation was complete and the odour of the tobacco filled the room. Still Miles was silent; Martha watched him, earnestly awaiting what he had to say, for her curiosity was excited to the utmost.

"Well, what were you going to say?" she would have asked, had she dared, but her courage failing her, she shifted her tack, and approached him by a sidewind. "What did you say?" demanded she.

Miles did not seem to hear her, at least he paid no attention to her question. "That Collins is a good sort of fellow after all," said he, and a wreath of smoke followed the words.

"He is wonderfully altered for the better," replied Mrs. Grey, "and how glad am I to see it!"

"But who would have thought it," observed Martha; "I am sure had any one foretold such an alteration in him in my hearing, I should have said, where's the use of it all, what he has been, he will be, and you'll see it; but wonders will never cease in this world."

"Many who have lived as long in the world, and seen as much as I have," said Mrs. Grey, "would feel less surprise than pleasure at such a change. It is but another proof of the power of God's grace in any heart that does not close itself against it."

"The poor fellow is sadly hampered about money," said Miles; "what good a nice little round sum would do him just now, it would set him again on his legs, and make a man of him for life."

"No doubt it would," returned Martha; "but nice little round sums of money don't come every day, nor any day we want it."

"If ever a woman deserved to be made happy," said Miles, "it is Collins' wife."

"I'm sure I heartily agree to that," said Mrs. Grey, warmly.

"She is a great deal the better of the two, in my mind," observed Martha, "she's been thrown away upon him, as any one that knows them may see; there is not a thing in the world that I would not do for her."

"She is a pattern of a wife and mother," said Miles.

"Poor thing!" observed Mrs. Grey, "she has had a hard bed to lie upon; but there's many a head that rests on down that might envy a heart like hers."

"This has been the best year to me that I have had since I have been in business," said Miles; "I have not had one bad debt, and I have got many new customers."

Both his hearers expressed their satisfaction; but Martha could not help secretly wishing that the improvement in her husband's temper had kept pace with his success.

"What say you both to my lending the poor fellow fifty pounds?" said Miles, suddenly turning to them.

"Say," replied Martha, "what should we say? It is a neighbour's part to assist another, and your duty to do it, and where's the use of saying any more about it?"

"But to provide for a wife and children is a serious thing," returned Miles, "and one good year's business does not insure another. Capital too is a great help to any man, and there is not a tradesman in the world who does not like to get on."

"I don't see the use of so many words about a thing that is as plain as the nose in one's face," replied Martha; "right is right, and all the talking in the world can't alter it. 'Do unto others as you would be done by,' that is rule enough for anybody."

"Mother," said Miles, "you don't say a word; I should like to hear what you think."

"John," replied she, "when our opinion is asked, it is not right to say at the moment what is uppermost in our mind, though nine times out of ten, the first thought is the best, especially in matters of duty. I cannot but approve of your willingness to help a neighbour, but when nearer ties come in the way—"

"Yes, yes," said Miles, hastily, "that's what I have said; the wife and children do and must make me hesitate."

"You don't hesitate, John," replied Mrs. Grey, smiling; "your mind is made up, all you want is for us to encourage you, isn't it so?"

"Well, perhaps you are right," returned he, "I wish to do it, but I did not think I was justified quite in pleasing myself without saying a word to you."

"Then I do encourage you, and heartily too," said the good old woman; "if you were to lose the money, which I do not fear, it would not ruin you; but this act of brotherly kindness will bring a blessing with it; it will be alms laid up in the storehouse of God's memory as riches for you and yours. Let him have the money."

"That's what I maintain," cried Martha; "didn't I say it was no use talking so much about it, you are come to my way of thinking at last. I only wish it was not too late to tell them about it to night; it is so pleasant to go to bed with a happy heart."

"Why, what o'clock is it?" said Miles.

"Not half-past nine," replied she.

"No more?" said he, instantly laying down his pipe, "then I will go to Collins at once; I shall be dreadfully busy to-morrow; it is the worst day I have, I shan't care to speak to any one."

"Nor any one to speak to you, I fancy," said Martha, as he closed the door. "O dear, what a pity it is that he should have such a temper as he has!"

"It is a pity," replied Mrs. Grey; "it spoils a good and a kind man; but it is better, Martha, to look at the bright side and be thankful, than to dwell on the dark, and spy out every little spot only to make ourselves unhappy."

"At all events," said Martha, "there's no use in complaining about it. I have given that up a long time ago."

Mrs. Grey smiled. "I am glad to hear it," said she; "there is no better way, you may depend upon it." She paused, and her thoughts led her into their neighbours' house. "Poor things! I can almost fancy how they will feel this."

"I wish Miles would come back!" said Martha; "I long to know how they take it, especially Jane; but it's wonderful how she keeps things to herself, and what strength she has; my heart would have broken into a thousand pieces, when she has never uttered a word; and how she has been tried! But I won't talk about it; if I do, my old dislike of her husband will come to life again, and there's no use in that."

"None at all," replied Mrs. Grey, hardly knowing what she said. "I begin to think, too, that Miles is gone a good while."

EGGS.

MORE than a hundred millions of eggs* are sent yearly to London from the adjacent ports of France and Belgium. What a wonderful cackling of hens, and what a number of hens must there be to lay so many eggs! If we allow that 100 eggs are annually laid by each hen, 1,000,000 hens must be engaged in providing this useful and nutritious article of food for the great metropolis. But to this vast number of eggs, and to this crowd of hens of foreign origin, must be added the home supply, of which there is no accurate statement to be obtained; but as it is from this latter quantity that the boiled eggs are selected, which make the chief part of the daily breakfast of thousands of Londoners, we shall be far below the truth if we state that the home market receives 30,000,000 of eggs annually, for this gives but twelve English eggs to each inhabitant of London; so that altogether 130,000,000 of eggs are consumed in that vast town. But why should we receive 100,000,000 of foreign eggs? Could not England export eggs as well as France and Belgium? The fact is, that up to this period those profitable sources of income, the poultry yard and dairy, have been neglected by their proper mistresses. Unless the farmer's wife and daughters look into the affairs of ducks and geese, poultry and eggs, cheese and butter, no profit will be realized; on the contrary, loss will be sustained. And so, when high prices for grain brought large profits to the farmer, he allowed his family to neglect that which then did not appear to be of much consequence to him. Painting and the piano, embroidery and worsted work, were more to the taste of the ladies of the parlour than the churn or the cheese-vat. But the Corn Laws are gone; and farmers, like all other tradesmen, must make the best of everything, in order to live and prosper; and so the looking after eggs and poultry may once more become a necessary employment to those, who will not find the advantages and accomplishments of a good education thrown away, if a portion of their time be spent in contributing to their husbands' and fathers' income. Again, consider what 130,000,000 eggs will cost the consumer: if we reckon them thirteen for a shilling, not less a sum than 500,000*l.* must be paid for this article of food alone.

What a wonderful idea does this minute portion of our food give of the demand which a city of 2,000,000 inhabitants has for food! "Their cry goeth up day and night;" but few send it to the Giver of all good, and the Bestower of all blessings. And then consider that a multitude as great as now dwells in London—some in palaces, some crowded and huddled together in damp cellars, or in not less unwholesome chambers—did three thousand years ago leave Egypt, at the dead of night, with no food but what they could hastily snatch up, and that unprepared for baking, with nothing to shelter them from the sky above, and with nothing to cast upon the earth beneath; and then when we call to mind that for forty years this multitude, which consisted of 600,000 men, besides women and children, lived in a wilderness as barren as Cheapside or Fleet Street, without receiving any food from any foreign country; and that this is an historic fact, as notorious as that there is a church in London called St. Paul's, can we conceive a person to be so stupidly wicked as to refuse to believe, that the food which they ate was supplied to them miraculously, or, which is the same thing, by the especial and direct agency of God himself?

* In the year 1852, 108,000,000 were imported; and in the year 1851, 115,000,000.

Among the great towns which have disappeared from the map of the world, the one most like London was Nineveh.

Nineveh had a population of not less than 700,000 souls ; it was situated on a river, in a country remarkable for its fertility, and was the chief city of, then, the most renowned and ancient empire of the world. It had magnificent temples and noble palaces : it must have been supplied, as London is, by the labour of thousands of husbandmen ; and these, again, conveyed the riches they received into numerous channels, which, spreading in every direction, increased with the comforts of life the population, which needed them. Yet, in the height of its power, was Nineveh stricken : a hundred years after its fall, its place was a matter of dispute : a few wild hordes now exist where thousands formerly dwelt, and silence has usurped the place of music and songs.

Jonah was listened to in the streets of Nineveh, and its doom was postponed ; what woe may fall on London when the ministers of Christ are unheeded in her churches !

H. G. T.

SEA-COAST AND SHORES OF CILICIA.—No. IX.

CÆSAREA.

CÆSAREA was a city and port built by Herod the Great in honour of Augustus Cæsar, after whom he named it, and dedicated it to that Emperor in the twenty-eighth year of his reign. Upon this occasion it is related that Herod assembled from all parts of the world the most skilful musicians, wrestlers, and gladiators, so that the ceremony might be rendered illustrious by a degree of splendour and profusion heretofore unrivalled on like occasions. Cæsarea, from being an obscure fortress, in the course of ten years sprang up to be the most celebrated and flourishing city of all Syria. This festival was to be renewed once in every fifth year ; but the note of the lute is silent, and the sword of the warrior rusted away into nothingness ; whilst Herculean frames, that strove every muscle for the mastery, are mingled with the dust and sunk into oblivion with the halls and palaces of the once-famed city.

In our progress southward from Carmel we had halted to examine the magnificent ruins of Athlete, called also Petra Incisa and Castel Pelligrino—a confused mass of the dilapidations of different ages. Whilst busy investigating this strange conglomeration of the remnants of opulence and fame, the sun set upon our inquisitiveness, and the warning voice of the muleteer urged us to resume the line of march, though not without many regrets. But the neighbourhood had at all times a bad reputation for being infested with marauding Arabs ; and to be overtaken by darkness in its vicinity was anything but desirable. Making all speed, we hurried over the sandy road for the distance of about three-quarters of a mile, and then came upon a rising level, where the sand had become rock, which had been scooped out by the hand of man on all sides for nearly a mile in circumference : this was apparently one of those vast *necropolises* (cities of the dead) which undermined the earth in the neighbourhood of most ancient cities, such as the one towards which we were now hastening. Passing by this also, we entered on a barren region as far as we could see ; nothing but sand and brushwood, save on that side where the restless ocean ceaselessly rolled her surge upon the beach, or dashed with loud echoing bellow into the caverns and recesses of the sandy cliffs. The short-lived twilight was a time of solemn, intense silence : the wind moaned plaintively over the wilderness, chanting a requiem over the fallen greatness of cities and their

hosts, fast sunk in oblivion ; the tinkling bells of the mules and the boiling surge were the music of the requiem—an apt accompaniment to the mournful voice of the wind. Now darkness gathered in around us, and heaven hung out her million lanterns to light us on our way. Sometimes we passed over the verge of a hollow precipice, whose caverns re-echoed the heavy tread of our cavalcade ; and then we could look down upon it into that mirror of the heavens, the ocean, and there watch the flickering reflection of the stars, calling to mind Heber's sweet verses :—

“ Reflected in the lake I love
To see the stars of heaven glow ;
So tranquil in the sky above,
So restless in the stream below.”

We had not been long benighted before the pale moon came scrambling over the distant hills of Judea, and shed her sweet, mild rays around us—a comfort and a solace to the weary wayfarer. The night was cool and bracing, and our horses stepped forward with revived energies, now that the heat and tormenting flies had ceased to oppress and annoy them. Presently, in the uncertain light, we discovered not far before us the mounds and ruins which occupy the site of the once-great city of Herod ; and arriving we alighted for the night, determined under the canopy of our tents to repose for one brief night on the site of the tower of Strato and the city named after Augustus Cæsar. Not a vestige of human habitation was to be seen, nor even so much as the rough hair tent of a Turcoman gipsy : utter desolation reigned around the spot. We prowled about the prostrate city, not without caution ; for from amongst the crumbling masses of amphitheatres and palaces more than one snake wriggled across our pathway, and many a startled jackal sped over the waste, yelling indignation or terror at our intrusion. Groping our way round the margin of a deep pit that had evidently been used as a quarry in more modern times—most possibly when Djezzar Pacha ransacked the ruins for the rare and beautiful marble columns and other ornaments that now decorate the mosque, the fountain, the bath, and the palace, constructed by that ruthless tyrant at Acre—we descended into a species of ancient amphitheatre, half-choked up with rubbish and sand, and thickly set with the cactus or prickly pear. Having scrambled up to the opposite side we seated ourselves upon a prostrate broken marble column, whose basework displayed some exquisite chiseling, and here, lost in reverie, we meditated on the sad fate that had befallen the city. “ And after certain days king Agrippa and Bernice came unto Cæsarea to salute Festus.” (Acts xxv. 13.) With what luxury and what pomp must they have come ! how were the loud demonstrations of welcome echoed and caught up from street to street, from city gate to palace ! where were the thousands of lamps that doubtless threw a bright glare on the obscure night air ! where the soft notes of the flute, the dulcimer, and the harp—the noisy clatter of the drums and tambourines, the hoarse shout of merriment, or the roar of applause that greeted each vanquisher in athletic game !—the sunny smile and bright eye of pleasure of the damsel that watched her lover's prowess as a gladiator !—the sumptuous entertainments, vessels of gold and silver, cups overflowing with nectar !—the scenes of the festive boards in palaces that strove to outrival the feast of Belshazzar in splendour and sumptuous entertainment—where were these, and many such like scenes connected with the pristine glory of Cæsarea, fled ! The sea murmured hoarsely against the sandy beach, or the deep hollow echo of the waves in the subterranean caves mingled with the moaning of the night breeze ; the prowling jackals howled mourn-

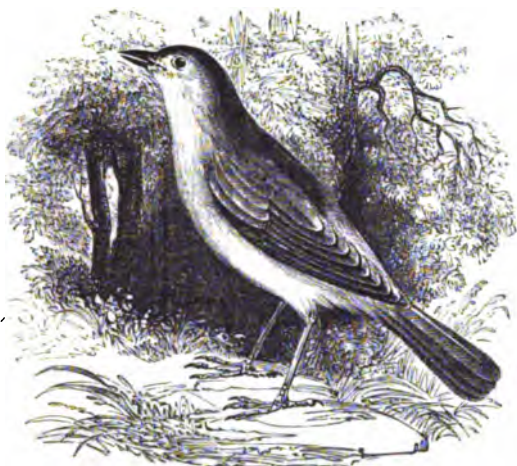
fully; the small night-owl hooted dismally to its wakeful mate, and sometimes the low, gurgling, frightful cry of the craven hyena startled the solitude of our retreat. Nor lute, nor harp, nor voice of man, nor palace, nor lamp remained: a clear, serene heaven—a deep sea full of phosphoric brilliancy—a moon palely bright—the prostrate ruins and the wilderness of sands and brushwood—were all that was to be seen, or heard, or felt, or talked about of that famous city of Herod. Could the dead rise up from their graves, as men wake out of a sleep, they would come to us strangers and wayfarers in the land, and inquire for the city of their birth—so complete, so fearful has been its desolation—an example for other cities and other people of the blasphemy of such pride as that displayed by Herod's vainglorious descendant, whose fearful end in this very wreck of a city, and the ruin of the city itself, seem without a doubt to have been a just retribution on a stiff-necked and wicked generation.

And now the theme of our thoughts recurs to a more brilliant, a far brighter and lasting renown for the fallen city of *Cæsarea*—a renown which shall ever outlive its earthly palaces and vain pomps, and preserve its name through all generations, till years shall cease to roll on, and the kingdoms of this earth be for ever blotted out. We remember that possibly within hearing of where we are now seated, perhaps on the very identical spot, the great orator and Apostle St. Paul, "reasoned of righteousness, temperance, and judgment to come." (Acts xxiv. 50.) Here, also, after his two years' unjust imprisonment, he addressed Festus and Agrippa in these memorable words: "King Agrippa, believest thou the prophets? I know that thou believest. Then Agrippa said unto Paul, Almost thou persuadest me to be a Christian. And Paul said, I would to God that not only thou, but also all that hear me this day, were both almost and altogether such as I am, except these bonds. (Acts xxvi. 27—29.) May God grant that the countless stones and ruins now scattered on the site of *Cæsarea* may yet be reared up to form a Christian town with a Christian church, from whose pulpit the text may be oftentimes expounded on the very spot where the words of the Apostle dropped in the spirit from his mouth, and were recorded as a trophy of Christian eloquence for ever!

There is no reason why *Cæsarea* should not be adopted as a site for a town: there are streams close at hand, and doubtless many springs and wells might be discovered and dug; the position is airy, and must be healthy; and the port affords even greater facilities for shipping than either those of Jaffa or Beyrout. Time and cultivation would soon bring to light again the rose of Sharon, and the orange-tree and lemon would thrive here as well as they do in the neighbourhood of Jaffa.

The moon had waned far into night when the heavy night-dew warned us to be careful of too much exposure to its sometimes pernicious effects; and waking up from our long and deep reverie, more cheerful at its end than in the earlier part, we rose up with lighter hearts, and tracing our way home by the deep imprints our footsteps had left in the sand, which marks must have been as rare to the keen eye of the jackal as were ever those encountered by Robinson Crusoe in his solitude, we regained our tents, weary with thinking and tired from travel; and when we retired to rest for the night, and when we awoke with the first grey streak of morning next day, our last and first waking thoughts were a happy kind of conscientiousness that our beds actually rested on the earth of that *Cæsarea* where Philip the Evangelist had received Paul and his companions, and where the devout man Cornelius sent unto Joppa to seek for the Apostle St. Peter.

OUR NATIVE SONGSTERS.
THE NIGHTINGALE.



FLOWERS are blooming, and green boughs are waving, and summer is come. The cuckoo's voice has long been heard over the hills as a never-failing token of spring, and we were ready to hail it in the words of our oldest English ballad,—

“Cuckoo, Cuckoo !
Well singest thou cuckoo,
Mayest thou never cease !”

But the sweetest of all our wild singers has come with the summer to give us a music far richer than that of the cuckoo's unvarying tones. The brown Nightingale* (*Philomela luscinia*) is singing now, and the clear loud notes, changing ever as the song proceeds, fill the wood with their echoes, and are answered repeatedly by kindred voices in far-distant trees.

“If, the quiet brooklet leaving,
Up the stony vale I wind—
Haply half in fancy grieving
For the shades I leave behind—
By the dusty wayside drear,
Nightingales with joyous cheer,
Sing, my sadness to reprove,
Gladlier than in cultured grove.

“Where the thickest boughs are twining
Of the greenest, darkest tree,
There they plunge—the light declining,
All may hear, and none may see :
Fearless of the passing hoof,
Hardly will they fleet aloof ;
So they live, in modest ways,
Trust entire, and ceaseless praise.”

Thus sings the author of the ‘Christian Year,’ of our Nightingale,

* The nightingale is about six inches and a half in length. Whole upper parts chestnut-brown ; under parts dull greyish-white ; beak and feet brown.

and all who have dwelt in places frequented by this bird, have paused to listen to its minstrelsy, sounding from the wood or shrubbery which bordered the highway. Not alone when the shadows of evening have brought their grey colouring to the wood or field is that strain to be heard; but even at the brightest hour of morning, when, if we look upward, we may espy the small singer sitting on the bough, and mark the swelling of its throat, as it pours forth the full tide of song.

But the song of the bird is so sweet in all its changes, and so loud too, that one can hardly believe it is uttered by so small a minstrel. Sometimes when one would fain sleep, that song has, in spite of our drowsiness, compelled us to listen. Now it seemed so plaintive, so deeply tender, as to justify the epithets of "melancholy bird" with which poets of all ages have so lavishly endowed the singer. But listen for awhile, and that melody has changed, and the "merry nightingale," the epithet of Chaucer, seems more appropriate, and we can for a moment believe with Coleridge,—

"A melancholy bird! oh idle thought,
In nature there is nothing melancholy:
But some night-wandering man, whose heart was pierced
With the remembrance of a grievous wrong,
Or slow distemper, or neglected love,
(And so, poor wretch, fill'd all things with himself,
And made all gentle sounds tell back the tale
Of his own sorrow,) he, and such as he,
First named these notes a melancholy strain;
And many a poet echoes the conceit.

"We may not thus profane
Nature's sweet voices, always full of love
And joyance! 'tis the merry nightingale,
That crowds, and hurries, and precipitates
With fast, thick warble his delicious notes,
As he were fearful that an April night
Would be too short for him to utter forth
His love-chant, and disburthen his full soul
Of all its music.

"Far and near,
In wood and thicket, over the wide grove
They answer and provoke each other's songs,
With skirmish and capricious passagings,
And murmurs musical, and swift jug, jug,
And one more piping sound, more sweet than all,
Stirring the air with such wild harmony,
That should you close your eyes, you might almost
Forget it was not day."

The low piping melodious strain which the poet describes as varying the jug, jug, jug of the nightingale, is well expressed by its rustic term of blowing. But most persons who have listened often to the bird, will admit with the son of the poet, Hartley Coleridge, that at times, at least,

"Ne'er on earth, was sound of mirth
So like to melancholy."

Both old and modern poets have been undoubtedly influenced by their classic associations in pronouncing the song of the nightingale a sad one; yet the oldest of all, again and again, expressed its song by similar epithets, and, from Homer downwards, many have told the same tale, or, as our Coleridge would have it, "echoed the conceit." Homer spoke of the tawny nightingale, that complains in leafy shades; and Hesiod and Virgil

rapidity." This difference, he says, proceeds from the construction of the vocal organs. "As a large pipe of an organ produces a more deep and mellow-toned note than a small pipe, so the windpipe of the nightingale, which is wider than that of the canary, sends forth a deeper and more mellow-toned note." Thus the soft, round, mellow notes of this delicious singer, are to be ascribed to the width of the windpipe.

The nightingale comes to our island at the close of April or the beginning of May, and quits us for southern climates at the end of August or commencement of September. The male birds arrive a few days before the females, and no sooner do these last reach the woods than a welcome of loud song greets their coming. These songs by day and night may be heard in full chorus during May and June; but after this time the voice of the nightingale seems gone, and when his mate no longer needs its cheering influences a strange croaking noise succeeds, as if our bird were hoarse from the effects of cold; varied occasionally by a snapping noise made by the beak, which would seem to be a tone of anger or defiance. Now and then, during August, the young male birds which were hatched in the preceding spring, seem warbling as if practising their songs against another summer.

The nightingale, general as it is in many counties, is very local in its distribution. It is abundant in the southern part of England, and is well known in Kent, Surrey, Sussex, Hampshire, Berkshire, Middlesex, Hertfordshire, Cambridgeshire, and Essex. It is rarely found in the middle and northern counties, except in one or two spots in Yorkshire, where it is described as somewhat more frequent; and in Cheshire, Staffordshire, Derbyshire, and Lancashire, as well as in Cornwall and Devonshire, it seems unknown. There are no nightingales in Ireland, and if any are ever seen in Wales, they are but occasional visitors to the southern counties. Many attempts have been made to introduce the bird in various spots; and though little success attended the efforts, yet Mr. Sweet considers that there is no doubt that the experiment might be made successfully in any place where there was a good cover of underwood, and plenty of insects, if the eggs were hatched by any of the tribe to which they are nearly related. He thinks that the Redstart would be a good parent.

The nightingale is naturally a timid and retiring bird, haunting the thick foliage of the woods, or the deep recesses of some copse with a good growth of shrubs. The neighbourhood of a purling stream seems preferred by it, and it delights in a hill-side where a natural echo is found to the song. The nest is skilfully concealed in some thick bushes not far from the ground, or is placed on the ground in a little hole, which the builder can find adapted to its purpose. It is loosely composed, so much so that, as Mr. Yarrell observes, it is generally necessary to pass a piece of thread or string several times around it, before removing it, if one wishes to preserve its natural form. It is made by placing a few dead leaves of the oak or hornbeam in the hollow, with dried grasses; and, when near streams, with pieces of rushes; while the lining is made of fibrous roots. Sometimes the "poet bird" displays an extraordinary taste in the selection of materials; and Mr. Murray describes a nest which he found, composed wholly of those skeleton leaves, which in spring and autumn lie scattered in woods and gardens, consisting only of the fibres, from which the green portion has been separated by sun and rain. As these leaves are not to be found everywhere, the little bird must have taken some pains to gratify her taste in arranging her home. The eggs are four or five in number, of an

olive brown colour. The young birds make their appearance in June; after which we seldom hear the nightingale, or if he sings at all, it is with little spirit and vigour.

This bird has generally two or three favourite trees near its nest, where it sings its sweetest songs, keeping all the time a watchful eye on its family. In the course of about a fortnight after the nestlings are hatched, they are covered with feathers, and, though unable to fly, they will quit the nest, jumping from twig to twig, after the parent birds. Sometimes when a wanderer through the wood comes near the well-guarded nest, the nightingale will practise some little art to wile him away from the spot. A naturalist, who was one day tempted to enter a copse, in pursuit of an azure butterfly, was attracted by the melodies of a nightingale close at his side. "The singing," says Mr. Conway, "was in one continuous incessant and uninterrupted melody; there were none of those frequent breaks which are so characteristic of the song of the nightingale when heard at a little distance; it was one incessant warble. I can hardly call it a warble, either; it was one unceasing effort; so much so, that I stood perfectly astonished, and at a loss to conceive how it was possible for so small a creature to exert itself so mightily." This listener soon began to think that the nest must be near, and he determined to watch the bird closely in order to discover it. This, however, was a very difficult matter, and he was at one time nearly giving up his search as useless, for whenever he entered the copse, no matter from what opening, there was the sweet minstrel close by him, and hopping from spray to spray, and bush to bush, thus leading him round about the wood at its will. He had just desisted from the attempt, when, by accident, he found the nest; and he then perceived that whichever way that song had led him, it was always away from the dwelling of the bird.

No bird is more easily caught than the nightingale. As it sings well in confinement, great numbers are taken during the first week after their arrival in this country, by the bird-catchers, especially in Surrey, as bird-fanciers consider the nightingale from that county to excel peculiarly in tone. This practice, of course, lessens considerably the chorus which would else be left to render the music of our woodlands delightful to the inhabitant of the Great Metropolis, who, after the cares and anxieties of city life, may wander during evening in the neighbourhood to listen to the soothing sounds of nature. It has been observed, too, that the nightingale, more than almost any other bird which builds near London, is liable to have its young ones destroyed by cats, as directly the morning dawns, the younglings commence such a perpetual clamour for food, that their enemy is attracted by it to the nest. The nightingale, when in captivity, will easily learn various airs whistled to it by the mouth, or played on a flageolet; but it loses, in so doing, its own exquisite song. It is, indeed, during its first year of confinement, very apt to imitate any song which it may hear; so that those who keep this bird find it necessary to place it near a good singer of its own species, and by proper care and training, a nightingale may be kept in song for three months together. Mr. Yarrell informs us that he was told by a successful keeper of nightingales, that a bird of his had sung for one hundred and fourteen successive days. After one or two years of captivity, however, the execution begins to fail, and instead of one long melody, the song is broken into snatches. It is said that when this occurs, if freedom is granted to the poor bird in the month of May, it will regain its rich sweet song, when, amid its natural haunts,

it has breathed the invigorating air of the woods, and felt all its longings to fly and migrate in its own power of accomplishment. In ordinary circumstances, a nightingale sings well for about five or six seasons, after which its voice becomes broken.

The nightingale is often so much attached to its owner when kindly treated, as that it will suffer none but its master or mistress to feed it; and it has been known to pine away and die, when tended by others. As it is thus exclusive in its attachment, so it is exceedingly jealous if the caresses of its master are bestowed upon any rival bird. Nor is this the only form in which its jealousy exhibits itself. It cannot bear a rival singer. "His motto," says Mr. Kidd, "is, *Aut Cesar, aut nullus*. He will admit no rivals near the throne. Hence, to keep two of these birds in one room would be ridiculous. The same extraordinary failing prevails in most of our warblers. If outdone in song, they frequently fall dead from off their perches. Some of these rival musicians, be it known, do not weigh more than a quarter of an ounce. When, therefore, it is considered desirable to keep several nightingales, let each occupy a different apartment. By this precaution not any one of the birds will be put down or silenced, and each one will sing without having his temper ruffled. It is sometimes a hard matter to restore the serenity of these 'enraged musicians,' even when the rage smoulders."

The nightingale has been known to die of regret at the change of masters; while some, which have been offered liberty, and sent forth into the woods, have willingly come back to captivity. But this may arise from the great dislike to any change which is so marked in the character of this bird. If only removed from its accustomed situation to another, even in the same apartment, it becomes restless and sad, and ceases its melody. It would dash itself to pieces if placed in an ordinary cage, where the light came to it on all sides; but when kept in shadow, it, in the course of time, consoles itself for its loss of liberty by singing and eating with remarkable voraciousness; yet a caged nightingale must ever be an object of commiseration.

The name of our bird is derived from night, and the Saxon *galan*, to sing. The Italians call it *Rossignuolo*, and the French *Rossignol*. It is the *Nachtigall* of the Germans. It is rather remarkable, that, though the nightingale is little known in Wales, Pennant has given the old Welsh word *Eos* among his list of its names.

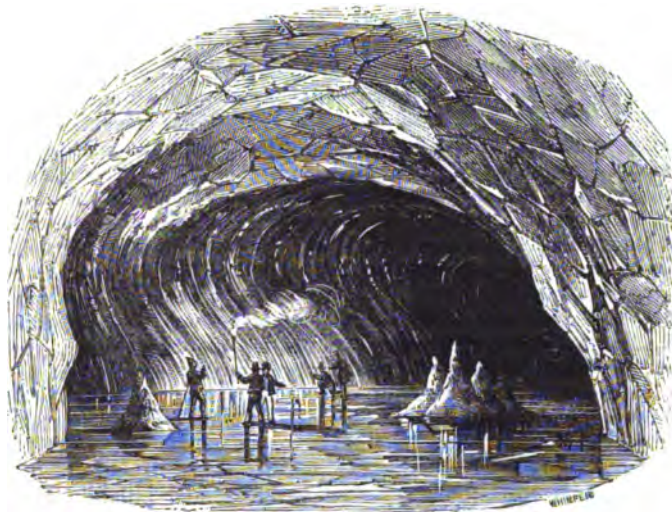
The Eastern nightingale, the bulbul of the poets, whose love for the rose is so common an Oriental fable, like our bird, sings during night. Its voice is stronger, and can be heard at a far greater distance, but it wants the mellow roundness of tone of the sweet bird of our woods.

HOPE.

But thou, O Hope! with eyes so fair
 What was thy delighted measure?
 Still it whisper'd promised pleasure,
 And bade the lovely scenes at distance hail!
 Still would her touch the strain prolong,
 And from the rocks, the woods, the vale,
 She called on Echo still through all her song:
 And where her sweetest theme she chose,
 A soft responsive voice was heard at every close,
 And Hope, enchanted, smil'd and wav'd her golden hair.

COLLINS.

CAVERNS.



AMONG the grand and beautiful features of the globe are caverns, or natural hollows in the solid crust of the earth, which are found of greater or less extent in most countries. Some of them are wide clefts in the rocks, which appear to have been torn asunder by some powerful agency; others form a series of grottoes, connected by passages; while a third sort admit daylight at both ends, and are frequently traversed by rivers. Some of these caverns are formed by the constant action of water on limestone or gypsum rocks; others are evidently due to volcanic agency. The immense size and extent of many natural caverns have caused them to be highly celebrated. The cave of Fredericshall, in Norway, is said to be eleven thousand feet deep. In the north-west of Georgia is a cave fifty feet high and one hundred wide, which has been explored to the distance of several miles. Caverns are frequently adorned in the most magnificent manner with stalactites and basaltic columns. Among these are the celebrated grotto of Antiparos in the Greek Archipelago, the entrance to which, as seen by torchlight, appears studded with diamonds and precious stones; and, in our own country, the cave of Fingal in Staffa, and the Peak Cavern, in Derbyshire. Some caverns exhale noxious vapours: the most remarkable example is that of the Grotto del Cane, near Naples.

But the most magnificent as well as extensive cavern in Europe is that known by the name of the Grotto of Adelsberg, in Austria. The entrance to this cave is situated about a mile out of the village of Adelsberg, at a point where the river Poik disappears beneath a limestone rock. The entrance for visitors is a small hole above this. At a distance of nearly two hundred yards from the mouth, a noise of rushing waters is heard, and the Poik may be seen, by the light of a torch, struggling along at a considerable distance below, and on a sudden a vast hall, one hundred feet high, and more than three hundred feet long, called the Dome, is entered. The river having dived under the wall of rock on the outside, here reappears for a short space, and is then lost in the bowels of the mountain.

The dome is "but the vestibule of the most magnificent of all the temples which Nature has built for herself in the region of the night." Rude steps cut in the rock lead down the sloping sides of this chamber to the level of the river, which is crossed by a wooden bridge; and the opposite wall is scaled by means of a similar flight of steps. Here the visitor enters the newly-discovered part of the cavern, consisting of a range of chambers varying in size, but by far the most interesting, from the variety, beautiful purity, and quantity of their stalactites. Sometimes uniting with a stalagmite below, they form a pillar worthy to support a cathedral; at others, a crop of minute spicules rises from the floor; now a cluster of slender columns reminds one of the tracery of the Gothic chapel, or of the twinings and interlinings of the ascending and descending branches of the banyan-tree. The fantastic shapes of some masses have given rise to various names applied by the guides, according to the likenesses which they imagine they can trace in them to real objects—such as the throne, the pulpit, the butcher's shop, the two hearts, the bell, which resounds almost like metal, and the curtain, a very singular mass about an inch thick, spreading out to an extent of several square yards, perfectly resembling a piece of damper, and beautifully transparent. The stalactical matter pervades almost every part of the cavern; it paves the floor, hangs in pendants from the roof, coats and plasters the wall, cements together fallen masses of rock, forms screens, partitions, and pillars. The only sound in the remote chambers is produced by the fall of the drops of water charged with lime, which is found to tip each hanging mass, forming an ascending spire or stalagmite on the spot where it descends. One of the long suite of chambers, larger and loftier than the rest, and with a more even floor, is converted once a year into a ball-room. On that occasion the peasant lads and lasses assemble from miles round, and the gloomy vaults re-echo with sounds of mirth and music.*

Many caverns of volcanic origin exist in Iceland. The most remarkable of these is called *Surtshellir*, or the Black Cavern. It is also called the Cave of the Robbers, from a tradition, that it was formerly occupied by successive bands of robbers. It was situated towards the west of the island, in a valley which has been filled up with molten lava: the approach to it is by a large chasm, formed by the falling in of the crust of the lava. The mouth of the cavern appears as a dark opening: it is thirty-six feet high and fifty-four feet wide; which dimensions the cavern retains for more than two-thirds of its length, which is upwards of five thousand feet. When Dr. Henderson visited this place it was filled to a considerable height with snow, beyond which extended a rugged tract of large angular pieces of lava which had fallen from the vault. The darkness was so great, that, with all the light afforded by two large torches, the cave could not be surveyed distinctly, yet beautiful black volcanic stalactites could be discerned hanging from the spacious vault. The sides of the cave had run into vitrified stripes, apparently formed by the flowing of the stream of lava. Farther on in the cave were entrances to other subterranean passages of an immense size, which, it is supposed, had formed the asylum for banditti in ancient times. About ten feet from the bottom of the cave was a long stone wall, visibly made by the hand of man. Within its enclosure was a room of thirty feet in length by fifteen feet in breadth, the floor of which was strewn with the finest volcanic sand.

* Murray's 'Hand-book for Travellers in Southern Germany.'

This probably formed the sleeping-place of the inhabitants of the cave. The vault was hung with beautiful stalactites, reflecting the light in a splendid manner. One of the divisions of this cavern represented in the preceding view produces a very striking effect. It is an ice-grotto, and is thus described by Dr. Henderson:—"The roof and sides of the cave were decorated with the most superb icicles, crystallized in every possible form, many of which rivalled in minuteness the finest zeolites, while from the icy floor rose pillars of the same substance, assuming all the curious and fantastic shapes imaginable, and mocking the proudest specimens of art."

WILD FLOWERS.


GERMANDER SPEEDWELL—(*Veronica chamaedrys*).

THIS flower is often, by persons little acquainted with plants, called the forget-me-not. In some places it is called cat's-eye; but it is one of the numerous family of the speedwells. These plants, whether growing in field or garden, may all be known from many others by this peculiarity, that the blossom, which is cleft into four segments, has always the lower segment narrower than the rest. We have no less than eighteen wild kinds. They are all blue or flesh-coloured flowers; but the germander is the largest of all the common species. Among our spring flowers it is most conspicuous, its brilliant blue blossoms lying like gems among the bright May grass.

At that time—

“The gorse is yellow on the heath,
The banks with speedwell flowers are gay,
The oak is budding, and, beneath,
The hawthorn soon will wear the wreath,
The silver wreath of May.”

Though an early-blooming flower, yet some of its tribe are earlier still. Thus the ivy-leaved speedwell, with light blue blossoms, and leaves shaped like those of the ivy, is very common in cultivated lands and among hedges, and, if March is fine, it may be found then, while it is sure to be abundant in April. Country people call it winter weed; but the procumbent speedwell, a plant with very small blue blossoms, and stems which lie along the ground, is the first of all the speedwells, and comes amidst the winds and rains of early spring-time. The speedwells are not now considered to possess medicinal properties; but they were once believed to yield valuable remedies, and were called by the Dutch Honour-and-praise. Several of the species grow in streams and water-courses. That common flower of the stream-side, the brook-lime speedwell, with its smooth fleshy leaves and brilliant blue flowers, was formerly eaten in salads. Its pungent leaves are still mingled with water-cresses, and sold in Scotland. This plant is called by botanists *Veronica beccabunga*, and appears to have derived its name from the Flemish *beck-pungen-mouth-smart*.

BOOKS.

MANY books require no thought from those who read them, and for a simple reason—they make no demand upon those who wrote them. Plays and romances, says T. Browne, sell as well as books of devotion, but with this difference—more people read the former than buy them, and more buy the latter than read them. He who loves not books before he comes to thirty years of age, says Lord Clarendon, will hardly love them enough afterwards to understand them. There is most profit, and truly most pleasure also, to be gained from the books which make us think the most: and where the difficulties have once been overcome, these are the books which have struck the deepest root, not only in the memory and understanding, but likewise in the affections.

THE DEATHBED.

“We watch’d her breathing through the night,
Her breathing soft and low,
As in her breast the wave of life
Kept heaving to and fro.

“So silently she seemed to speak,
So slowly moved about,
As we had lent her half our powers
To eke her living out.

“Our very hopes belied our fears,
Our fears our hopes belied—
We thought her dying when she slept,
And sleeping when she died.

“For when the morn came dim and sad,
And chill with early showers,
Her quiet eyelids closed—she had
Another morn than ours.”

HOOD.

THE
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A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

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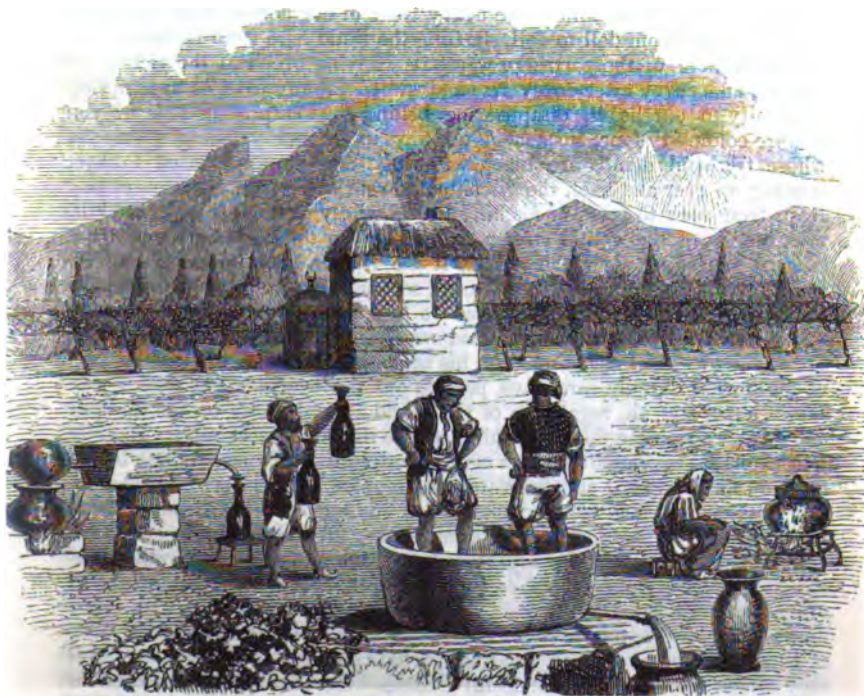
BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.

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[PRICE 1d.]

THE THIRD HARVEST OF SYRIA.



MOWSOOM EL ANEEB—THE GRAPE HARVEST.

THE wheat fields are a desolation—the village is deserted, and the birds have taken wing and flown to the mountains, where the wild berry is plentiful, and the brooks flow noiseless in chasm and ravine shaded by stately trees, from whose boughs the Arab bulbul twitters forth its love ditties.

“ Let us get up early to the vineyards; let us see if the vine flourish,

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whether the tender grape appear, and the pomegranates bud forth." (Cant. vii. 12.)

With such a resolution we wake up on a fine September morning, and mounting our horses, ride off for a sojourn of a fortnight or three weeks' duration amongst the pleasant *kumus*, or vineyards, which are plentifully planted up the mountain side upon the hills, now ten miles distant from where we start. Truly, autumn is a lovely season in the East; there is all the freshness of the mild gentle spring in the breeze, and the clear unclouded sky gives full assurance that no rain yet threatens to saturate the earth with moisture. No gusty winds come to enviously disrobe the trees of the bright summer mantle with which they are yet decked; fruit hangs temptingly in rich clusters from overburthened boughs, and the deep green foliage of the pomegranate tree is thickly bespangled with vermilion blossoms. As we ride along and leave the plains behind, mounting gradually one slope after another, the sun bursts forth from over the topmost mountains, lighting up the plains with intense brilliancy of colour, and changing into gold the lofty topmost branches of the wild trees that grow to stately heights up the deep declivities of the hills; the heavy tread of our horses' hoofs is caught up and echoed from dell to dell, startling the timid hare from its lair, whilst the shrill note of the partridge warns its straying brood of the vicinity of danger, and covey after covey rise and sweep rapidly over us in tempting proximity to our heads, disappearing behind the sharp projection of yon sombre-coloured stone, suspended midway in yonder yawning precipice, whose frightful depths are black with mist and densely-platted foliage, sending up ever and anon the discontented roar of the restless cataract that leaps from rock to rock, or foaming rushes wildly over its shingle bed till, mingling with the gentle stream that intersects the plains, its waves are soothed, its anger fled, and calmly it too ripples with the river's waves, sporting with sunbeams, or the pleasant soft sand that line the river's banks on either side; just as a man, tossed to and fro by the tumultuous rocks and cataracts of life, meets some fond sympathising heart, and so, forgetful of the furrows grief has painted on his brow, mingles with the gentler joys of those whose kindly care have pointed out the beacon light from which shines hope, and he, regardless of the world around, flows on the tranquil stream of well-placed faith, and mingles with the ocean of eternity. Exactly four thousand two hundred years ago, according to Scripture, "Noah began to be an husbandman, and he planted a vineyard." (Gen. ix. 20.) Doubtless this was just such another vineyard as any one of these through which we find ourselves riding eighteen hundred and fifty-two years after Christ. The vineyards are carefully separated from each other by rough walls constructed of loose stones, piled one above another, of a sufficient height to prevent cattle from striding over, and in many places piled up with thorn bushes to check the depredations committed by wild boars and jackals, both of which animals evince an amazing partiality to grapes; to get at which they oftentimes resort to wonderful artifices—the wild bear being capable of undermining the walls, and the jackal possessing all the climbing capabilities and agility of the panther. Some few of the vineyards are in a neglected state, the walls broken down, the vines trailing on the ground, and choked with briars and thistles; but the greater portion are kept in excellent order, the husbandmen repairing to the vineyards, before the young grapes are firmly set, to clear away the ground, and to repair the rents and heavy damage done to temporary walls by the winter and equinoctial gales, which in these high parts blow with unchecked fury and

violence. The neglected vineyards are the property of that class of men whom Solomon has well described in the book of Proverbs: "I went by the vineyard of the man void of understanding, and lo! it was all grown over with thorns, and nettles had covered the face thereof, and the stone wall thereof was broken down." (Prov. xxiv. 30, 31.) In one vineyard that answered exactly to this description, we saw the reckless husbandman fast asleep, on a rug stretched under the shade of a walnut-tree, whilst a troop of donkeys were unintentionally rendering him a great service, by devouring the thistles, in preference to the luscious bunches of grapes that lay temptingly upon the ground, and so effectually weeding the vineyard of noxious plants that were stifling the vines. At length we have arrived at that particular vineyard where we are to take up our abode, as the guests of the proprietor. The vineyard itself has not much to distinguish it from those that surround it, if we may except the habitation erected in the centre of it, which is a permanent residence, well built with stone and mortar, and securely roofed in and covered with tiles, forming, in this respect, a striking contrast to the miserable temporary huts annually erected for the accommodation of most of our immediate neighbours, whose means will not admit of better lodgments. Their huts, saving during grape-harvest, and especially in the early spring season, when viewed by the passing wayfarer, recall to mind the simile made use of by the Prophet Isaiah—"And the daughter of Zion is left as a cottage in a vineyard" (Isaiah i. 8), that is to say, desolate and fast crumbling away to ruins. The system upon which the vineyards are planted, the method adopted of pruning and watching them, the gathering of the grapes, and the portion left for the gleaners, are all evidently in accordance with very ancient usages; and, combined with the costumes and appearance of those that surround us, recall forcibly to mind the old times of the Patriarchs Abraham, Isaac, and Jacob. In the first place, when a young vineyard is planted, the fruit remains three years untouched; the natives averring, as a motive for this usage, that it would seriously injure a vine were it permitted to bear fruit before it had attained a mature growth. The practice has evidently more ancient data than they imagine. We read in the book of Leviticus, "And when ye shall come into the land, and shall have planted all manner of trees for food, then ye shall count the fruit thereof as uncircumcised; three years shall it be as uncircumcised unto you: it shall not be eaten of." (Lev. xix. 23.) The same with regard to gleaners: "Neither shalt thou gather every grape of thy vineyard; thou shalt leave them for the poor and stranger" (Lev. xix. 10); and this commandment, emanating from the Almighty himself—for the verse just quoted concludes, "I am the Lord your God"—is strictly obeyed to this day by the vineyard proprietors in Syria. The method of trailing the vine is simple, and in keeping with every other custom. When the spot chosen for a vineyard was originally fixed upon, it was overrun with brushwood, and thickly planted with stunted mountain oaks. The husbandman's first care was to burn and eradicate the brushwood; next he lopped off the branches of the wild oak, and securely destroyed their ever again sprouting, by denuding the stems of the bark, and burning the sap out by fires piled up high all round, which, though they did not actually ignite the trees, scorched them as dry and as black as a coal. The earth was then ploughed round about, and well manured: thus far advanced, shoots were procured at proper seasons from healthy vines, and planted four to the stem of each withered oak tree, facing the four quarters of the globe. As these sprouted, they were care-

fully trained, first around the stem of the tree, and then, as they increased in length and size, carried over twine attached from opposite trees in four opposite directions. In this method, the vine facing east was carried towards a vine planted by an opposite tree, and facing west, so that the two vines met half-way; and so, in the course of years, expanded over the whole vineyard, interwoven with each other in so intricate a manner as to defy the utmost perseverance and skill in endeavouring to unwind them. The main branches, which in the course of years grow to a considerable thickness, are carefully preserved when all the rest are lopped off and the vines are pruned; but the young shoots naturally incline towards one another, and the result is, that the whole space constitutes one vast arbour, pleasant and shady to walk under, and beautiful in the extreme when thickly clustering with rich purple fruit, and when "The time was the time of the first ripe grapes." (Num. xiii. 20.) In the immediate neighbourhood of the house where we are lodged are some half-dozen stately walnut trees, and beneath the canopy afforded by these, carpets and cushions are spread for the accommodation of the household, or of such strangers as may chance to drop in. The busy part of the harvest has not yet commenced; every one is now making *keif*.^{*} Beneath us are the plains, and beyond them again the ocean; behind us high craggy hills, up whose sides goats are scrambling in search of pasturage, whilst the young shepherd-boys, perched on dizzy pinnacles, tune up their pipes to very primitive melodies. The mid-day luncheon is spread upon a snowy cloth, stretched upon the ground. Those who are accustomed to sit tailor-fashion, squat down immediately on the carpet; those to whom this proves an inconvenience, recline at full length, bringing their mouths to bear nearest to that dainty which fancy or appetite may have dictated. The repast consists of a plentiful supply of goat's milk, heaps of bread, curdled cream, and cream cheese; pile upon pile of freshly-plucked grapes, melons and water-melons, figs and cucumbers, and an abundance of young nuts. But the grand dish of the occasion, and the only one that is hot, is a mixture made of starch and grape juice, with walnuts and almonds. Huge caldrons of this stuff are manufactured about the close of the grape vintage, and left in the sun to dry: when quite hard it is cut up into small slices, or, before assuming a perfectly-concrete form, strung upon long twines, and then carefully packed up in wooden boxes and put aside for winter consumption, when it is considered by the natives, as also by many of the Europeans, a very delicious sweetmeat. Our poorer neighbours, down to the very poorest of them, except perhaps the man who is asleep in the vineyard, are enjoying a mid-day lunch, in every respect as luxurious as our own—such is the bountiful nature of the soil, and the spirit of hospitality that possesses the people.

The next morning the harvest commences in earnest: the master of the vineyard rises at early dawn, he awakes the husbandmen, and when all have breakfasted he shouts to his men, "Thrust in thy sharp sickle and gather the clusters of the vine . . . for her grapes are fully ripe" (Rev. xiv. 18), a command which is obeyed with alacrity. During grape harvest the bees become a perfect nuisance: from the earliest ray of daylight till night has set in again, they are perpetually buzzing about in swarms, evincing a greater partiality for those grapes which, drying on mats in the sun, are rapidly approaching a state of effervescence, and which supply these honey-storers with a rich draught of nectar. Not the least unpleasant thing

* Enjoying himself.

connected with this invasion of bees is their savage inclination to sting, and olive oil is in constant requisition to alleviate the pains of suffering mortality. The first grapes gathered are for the vintages; these are spread upon mats systematically arranged in that portion of the vineyard where the sun shines brightest, and in such order and precision as to enable one with facility, from the peculiar tint of the grapes, to class those of the same day's culling. This is an important object, as great nicety has to be observed in the exact state of fermentation produced before the grapes are placed in the wine-press: there must be neither too much or too little fermentation. When the owner of the vineyard finds that all the mats are covered, and that consequently he has sufficient grapes for vintage purposes, he orders retorts and boilers to be prepared, and those being made ready, he causes bunches of grapes to be thrown into the hot iron caldrons: some he seasons with aniseed, some remain pure. The covers are hermetically closed, the fires augmented, and the grapes boil and boil till their essence begins to evaporate through long narrow tubes, which are carried through the centre of large wooden troughs filled to the brim with cold water; yet such is the heat imparted to the iron tube by the spirit, that the coldest water in a few minutes grows warm and hot, and then those who superintend the manufacturing of these spirits, are compelled to let the water run off by means of a cock at the bottom of the vat, and to supply the void with fresh cold spring water. If it were not for this precaution the spirit would be impure. Huge bottles called demijohns, and by the native *Inglazeers*, or *Englishmen*, out of compliment to their size and strength, are placed at the extremity of the tube to receive the spirit as it exudes: that which is mixed with aniseed constitutes the *rackey*, or *arrack*—a spirit nearly as strong as proof rum. The simple spirit, which is tasteless, is destined to make spirits of wine, and it has no sooner been once distilled than it goes through the process a second and third time, till it becomes proof; that is to say, a teaspoonful is ignited and the whole consumed, leaving the spoon as dry as a bone. This spirit of wine is one of the most valuable proceeds of the vineyard, fetching at all times a ready price amongst the mechanics and chemists of the larger towns. Whilst the spirit has been distilling, a small quantity of picked grapes have been cleaned and washed, and are simmering over a gentle fire to produce artificial fermentation; and these grapes are in the course of twenty-four hours converted into a wine ready for immediate use, the flavour of which, however, is sweet and sickly and its effects most intoxicating. But the grapes exposed to the sun are now declared ready for treading, huge empty barrels that year after year have rendered good service are placed upon elevated platforms: girls, women, and children busily separate the grapes from the stalks; mat after mat is carried and emptied into these barrels. Two stout young men with herculean frame are singled out to commence operations: these have their feet and legs carefully washed and then rubbed dry, and so they denude themselves of their heavier upper garments, and enter into the tub and upon the labours of their occupation. They tread heavily, and sing incessantly verse after verse of old songs, handed down through many generations, and which all refer to the excellence of the vine and of its manifold productions. That all this was a very ancient usage we have proof from the threat held forth against Moab by the prophet Isaiah: "And gladness is taken away, and joy out of the plentiful field; and in the vineyard there shall be no singing, neither shall there be shouting: the treaders shall tread out no wine in their presses; I have made their vintage-shouting to cease" (Isaiah xvi. 10)—conclusive evidence

of this very identical practice having been in full force seven hundred and twenty-six years before Christ. When the treading is completed, the grapes are allowed to stand in their own liquid for a whole week, the top of the barrels being so closed as not entirely to exclude the admission of air. During this week the process of fermentation terminates, the skins and frothy matter of the grapes rise to the top of the tub and float on the surface; the pure vine juice, which constitutes the wine, is then gently drawn off into jars finely glazed inside, and these jars are covered and corked up hermetically, and left to repose from forty to sixty days. The wine has now set, and assumed a body of sufficient strength. A feast day, or a marriage, arrives, and it is drawn and served round to the guests; illustrating forcibly the practice described as adopted at the marriage feast of Cana in Galilee. Water is poured upon the refuse in the tubs, and this, exposed to the sun, in course of time becomes a sharp, stringent vinegar. Whilst the fermentation of a week's duration was progressing, the labourers in the harvest have been by no means unemployed; fine healthy-looking bunches have been half cut through and so left to wither on the branches: these are afterwards removed and exposed to dry in warm shady parts, being carefully secured from the heavy night dews, and these, in the course of time, become very admirable raisins. Other bunches of grapes have been cut and dipped into scalding water, there held for a few seconds, and afterwards suspended to a rope hung across the room, and here they may remain for months, retaining as much freshness as though only just plucked from the vine: then when all these things are done, what remains of the grapes, excepting always the due share of the gleaner, is gathered and thrown into large caldrons, and boiled over a very quick fire, two women stirring them all the time with large wooden ladles, till the whole has assumed the thickness and consistency of glue. A quantity of lime water is then poured in, this detaches the skin and scum, and the boiling grape-juice is carefully skimmed; after this it is again stirred about until the whole has assumed a very thick form. It is then poured into earthenware jars and left to cool, and next morning is converted into a hard saccharine matter called Dhips, or Beckmaize; sweet and delicious in savour, an excellent substitute for sugar, and infinitely preferable to molasses. The grape harvest may now be said to have been gathered in; but there are yet three or four vines which we stumble across, and which, to our surprise, are laden with clusters of unripe green fruit: this we are told is the perpetual, or winter vine; its fruit never ripens, and the acidity of its grapes and even of the leaf is intense. This vine is as much valued by the natives as any other; without it they would be utterly at a loss how to cook many of their most admired and favourite dishes: the tender leaves are rolled up and filled with rice and finely chopped meat, and then boiled in water, producing an exquisitely delicate dish; the sour grapes are bruised, and their juice made use of in the natives' favourite soups of "leban" or curdled milk, cabbages and kubbeys, or force-meat balls. There is one vegetable very exquisite in flavour, and peculiar to Syria and India, called the Bamiah, whose thick glutinous substance would be wholly unendurable unless tempered with the acid of the grape, and cooked as only Syrians can cook them.

The nights are getting cold, and gusty winds often prevail; the gleaners have made a clean sweep of the vineyards; leaves fall rapidly beneath the autumnal gales, and our sojourning has come to an end. Horse-loads of goods precede us to the village; jars of spirits of wine; jars of rummy; jars of new wine; jars of vinegar; jars of Beckmaize; huge sacks

of raisins; and large bunches of young leaves and sour grapes from the perpetual vines that never cease bearing. The peasant trudges home beside the mules which carry his family and stock in trade: he is glad to get home again, miserable and small though that home be; his blithesome voice resounds far and wide, and his song is all about the bounties of that great Creator whose munificent gifts he is now bearing home to his humble cot. And we quit the scene not without regret, hoping that next year, if we are spared, "Houses and vineyards shall be possessed again in this land." (Jeremiah xxxii. 15.)

IT'S OF NO USE.—No. VII.

MARTHA had been, according to her own declaration, on the fidget for some time, and had quite come to the conclusion, that he was staying much longer than there was any need, when he entered.

"Well," said she, "here you are at last. What did they say? were n't they pleased?"

Mrs. Grey, too, fixed her eyes on the countenance of Miles. It was flushed, and an expression rested upon it that she could not decipher. Martha repeated her question.

"It is not a pleasant thing," said he, in a subdued tone, "to look upon a man when he is overcome by his feelings, let those feelings be what they may; especially if there be a little self-upbraiding on his part, and something of superiority in ours, kind as our wish and errand may be."

"Poor Collins!" said Mrs. Grey, "I have known him from a boy; he had always a great opinion of himself. I can fancy he was sorely humbled."

"He was, mother," replied Miles; "and I'll tell you what, the humility that pleases God, who has a right to expect it, is a distressing sight to one who is a sinful mortal himself. I could not think I should have felt it so much. Well, there's an end of it; I shall always, I know, be glad to think of the act that I did, but not of the moment in which it was done. But the pipe is gone out—I won't light it again—let's go to bed—good night, mother;" and so saying, to Martha's regret, he took the candle, and bidding her be quick and follow him, he went to his own room.

"We see indeed through a glass darkly," in this life, but we may see sufficiently clear to trace the workings of Almighty goodness, in the events that befall us. At no moment could the unexpected generosity of Miles have come so opportunely as it then had done. The heart has its turns, a peculiar crisis in its feelings, that none but the eye of Omniscience knows; when this is happily taken advantage of, the crooked becomes straight, the doubtful way plain, the work of renovation is insured and finally completed.

The conduct of Miles restored a degree of self-respect to Collins which he had long ceased to feel, though perhaps never to regret. The loan of the money enabled him to clear off many small debts, that lowered him in the eyes and credit of others, and kept him in a state of constant anxiety. A mind freed from severe worldly cares is a great help to moral and religious improvement. A brighter day was dawning on Collins, and the good work of reformation was steadily going on, not only in the outward conduct, but in the heart of the man. Shame had produced sorrow, sorrow had given birth to contrition, and contrition at length proved itself in

open acknowledgment of guilt, first to Mr. Nelthorpe, and afterwards to his wife.

He had taken home a new suit of clothes to Mr. Nelthorpe; and as he professed to be anxious to know whether the coat fitted, and was made exactly to the instructions he had received, he was admitted into the study: the important point was discussed, and settled satisfactorily to both parties; but Collins was in no hurry to depart. Mr. Nelthorpe perceived it, and at once gave him the opportunity, if such was his wish as he believed it, to relieve his mind.

"Well, Collins," said he, "I hope all is going on well with your business now. If I may judge from the cheerfulness of yourself and wife, I should conclude that matters are prosperous with you."

"They are, sir," repeated he, "everything is going on well, I can't be too grateful." He now communicated Miles's generous conduct to him.

"I am glad to hear it," said Mr. Nelthorpe; "such instances of kindness put one in love again with human nature, and open new sources of gratitude to Him from whom all kindness flows."

"But this is not all," said Collins, evidently struggling with feelings he wished to express—"I have many blessings to be grateful for. I have a wife that any man might be proud of, I have a good son, and I have a good business; and, sir, I am not now ashamed to own it, I am an altered man, in most respects, for the better. Happy too I am, though I deserve little of the blessings that I enjoy."

"Indeed," said Mr. Nelthorpe, "I believe if the happiness of the very best among us was to be measured by our deserts, we should have but little to boast of; God's mercies are so far beyond our merits, that humble thankfulness is the most proper expression that any man, virtuous as he may be, can use."

Restraint was now thrown aside, and Collins at length gave the rein to suppressed feeling.

"You know, sir," said he, "that I drank hard, as I may say, that I foolishly spent the money my wife earned; that I was a selfish, ay, an unkind husband, an unkind father."

He paused. "I suppose, I do know all this," said Mr. Nelthorpe, "and I trust that you are now the reverse."

"But you do not know," continued he, shading his face with his hands, "the crime I meditated, and the circumstances which led to the horrible thought."

"The circumstances I certainly do not," replied Mr. Nelthorpe, "but I too surely suspected what you were meditating."

Collins looked surprised, and fixed his eyes on him.

"You allude to the morning," continued the former, "that I saw you by the river-side." (Collins coloured deeply.) "I watched you; your manner told me something was very wrong, and I saw that a moment was not to be lost; I acted as I did, for I feared that I might hasten the fatal step I was so anxious to avert."

Collins was very much affected, and for a few seconds was quite unable to utter a word. At length he said, with great emotion:—

"Oh! sir, I now see the meaning of your whole conduct towards me; it was to save me, soul and body, that you behaved as you did. How can I sufficiently prove my gratitude to you?"

"By offering all the gratitude," replied Mr. Nelthorpe, "you profess to feel to me, the instrument alone of the Divine mercy, to that gracious

Being, whose servant I am. You have indeed, abundant cause to be thankful to God, for having saved you from a crime the most heinous and dreadful; as the only one, if consummated, not to be repented of. No murder (and murder stands at the head of the fatal list of human iniquity) is equal in guilt to self-murder. It is defying the Almighty to His face, throwing back with scorn the gift of life, and boldly rushing, uncalled for, into that presence, which the supporting grace of Christ's blood alone enables the most righteous man to encounter. It is also the most dastardly and cowardly of all acts, making us contemptible in all eyes, human and divine, and we may suppose, filling even the evil spirits with surprise. Yes, our great poet was quite right, when he said

"When all the charms of life are gone

The coward slinks to death, the brave live on."

"I feel it, I feel it!" cried Collins; "pray, sir, say no more: may God forgive the wicked thought! surely there is no danger that He will not?"

The greatest distress was depicted on the poor man's countenance, and he seemed to hang on the reply of Mr. Nelthorpe, as though life depended on it.

"None," said that gentleman, firmly, yet reverentially, "provided you truly repent of having formed it; that you place your full and entire trust in the merits of your Saviour, and so act henceforth as becomes a truly sincere Christian."

"I will endeavour to do so, heart and soul," replied he, "and I have all that a man can desire to make me persevere. My wife is again like herself, almost happy, and my home is in every respect comfortable and cheerful. If I had but a little more to do—some employment, that would enable me to bear my part in the maintenance of the family, I should have little more to wish for—few in the parish would be more to be envied than myself."

Mr. Nelthorpe heard him with sincere pleasure; and now assured of his thorough desire of amendment, he lost no opportunity of furthering his views. Nor had he long to wait, before he was able to assist him materially. The office of collector of the assessed taxes became vacant, with two or three small appointments which had been attached to it. By his advice, Collins immediately made application for these, and through the interest he now possessed, he found no difficulty in succeeding. His position was becoming an enviable one: his conduct proved that the confidence reposed in him was well-founded, and such as to entitle him to the general respect of the inhabitants of the parish.

Martha could with difficulty realize the change in her neighbour. She had so long and so obstinately maintained that it was of no use to expect Collins to turn over a new leaf, or Jane to keep her head above water, let her work and struggle as she would, that it was not an easy task for her to admit that she was mistaken: not that she cared to own she was wrong at any time, for, as she very properly allowed, there was no use in contradicting what was plain to any one; but because she really thought, as she said, that a man once a drunkard, must be one for ever. Miles had forbidden her to speak of the money he had lent Collins. The subject, therefore, was not even alluded to by either herself or Jane; but there was an evident increase of kind and even affectionate feeling between them, while Martha, as if to make up for the restriction imposed upon her in one respect, was more communicative and free in her strictures in another.

"Oh!" said she to her, one day, "if I could but see only half such an improvement in my husband as in yours, how happy I should be; but I

shall not live to see it, so there's no use in fretting about that. He grows worse and worse the more business we have, and what ought to make him the better tempered, makes him the more violent, and I could say, the more silly. The storming, raving, calling that we have in a morning, when we are setting off the carts and baskets, is not to be believed unless it was heard. My poor nerves are shaken to pieces. I often wish there was no morning at all, or no business to make me dread daylight. I never say anything to him now, it's of no use, so he has it all his own way; and a pretty way too it is."

"I am glad you say nothing to him;" replied Jane, "and don't despair, all may come right yet. Your husband has many excellent qualities; he's a kind friend."

"I don't deny that," said Martha, "that's the provoking part of the business. His heart is in the right place enough; but where's the use of that when the temper eats up his own comfort, and every one's beside? The roast beef is nice enough, but who likes to be basted with the ladle? I tell you the truth when I say I have a good deal to put up with, a good deal that is very mortifying and very trying to a wife. If we were alone I could stomach plenty and not say a word; but before every one, children or servants, or boys or men, to have one's head snapped off for nothing, and words thrown at one which no man ought to use to his wife, cuts sharp I can assure you. And then I hate to see him lower himself thus in the eyes of all about him: he loses his own respect as well as destroys mine. I see them all grinning behind his back, or winking at each other, and holding him as cheap as possible where they ought to fear him, and fearing him where they ought to look up to him. No, Jane, much as you have borne, you would not like to be put on a footing with every one beneath you, by having words and expressions used to you, and before everybody, which are used to the meanest hand in the business."

Poor Martha burst into tears as she concluded, and Jane, really feeling for her, endeavoured to sooth her, bringing every good argument that suggested itself to her mind to induce her to hope for the best, and to endeavour to make hope a certainty by a wise and conscientious discharge of her own duty.

A few mornings after this, Miles had been more than usually impatient and violent, and Martha, in spite of all her resolutions to the contrary, had indulged first in words and then in tears, to the great annoyance of her husband. The pressure of business, however, being over, his good-humour, according to custom, returned, and he would have forgotten that any disagreement had occurred between them, if she had not brought the circumstance to his recollection. The children had come home from school in the afternoon and were at play in the garden. It was washing day with Martha, and she had been to take in the linen that was dry. As she was returning, her head only to be seen for the burthen she bore, she met her husband. Miles spoke to her, but whether she rightly understood him or not, or was still sore at the treatment she had received from him in the morning, she made no other reply than—

"They are safe enough; but if you wish to see yourself, go behind the arbour."

Not knowing of course what she meant, Miles did as she desired; and so placed himself that he could see and hear all that was passing in the arbour, without himself being in any degree visible.

There seemed to have been some dispute between the children, which was not now quite settled.

"Now do, Will," cried a younger boy whose name was James, "do let me be father now. You have played long enough; it's my turn, isn't it?" appealing to the others.

"And let me be mother?" said a little girl. "I can do it as well as Patty; do let me, pray do."

The two elder yielded. James, who was Miles's pet, now began busily to arrange several garden-pots and pieces of brick which were lying in and near the arbour, ~~intending~~ them to represent loaves of bread. As he did this, he imitated ~~his father's~~ manner exactly. "All hands alert!" cried he, "now look about sharp; the cottage bread, not the quarterns; what a blockhead you are! here, here, quick," and throwing down the pieces of pretended bread that was offered him, demanded others to be brought directly. He now spoke loudly to his brothers and sisters, whom he addressed by the names of the persons employed in the shop; he gave orders to them in a clear but peremptory tone of voice, and to force attention, every now and then stamped with his little foot.

Miles was delighted. "The young dog!" cried he to himself, "how well he does it!"

Presently the boy became exceedingly impatient, he reprimanded one, screamed his commands to another, called loudly "Martha!" and when the little girl who represented his mother flew to his bidding, he told her not to crawl like a snail, but to be alive; and on her replying that she was as quick as she could be, he desired her not to talk like a fool to him who knew better, but mind what he said. Then pretending to grow more irritable, he declared there never was a man on earth who was bothered with such a set of stupid asses about him as he was; and, in the spirit of his assertion that he was obliged to jump ten ways at once, the boy suited the action to the word, and leaped from side to side so ridiculously that Miles though he could not at first help involuntarily laughing, soon felt in a way which he could not have described, nor any other person have understood.

The boy's representation was a caricature certainly, but it was a very clever one; and Miles tingled all over. The children shouted with applause. The little girl who personated her mother pretended to cry, while James's animation increased as his exertions seemed to please.

"Now, don't stand there in the way," cried he to little Ann, pushing her aside, and elbowing her rudely, "doing nothing, and looking like a goose as you are."

"I won't be spoken to in that manner," returned the child, between a sob and a scream, "you ought to be ashamed of yourself, you ought; it's of no use, John Miles."

"But it shall be of use and be—" cried James, passionately, and an oath followed.

"Oh! James, James," cried the others in a breath, "you ought not to use bad words. Where do you think you'll go when you are dead, if you—?"

"Father does," replied the boy, "and I am only at play—now don't let me find head for you all, jump about, jump about."

But Miles could look no longer; he stole away to the house, avoiding his wife, and glad to be alone. Martha, however, had caught sight of him, and marked the vexation expressed on his countenance. She laughed to herself as she said, "He has had enough, I see. I wish it may do him good; but not it, he's too old to mend; old trees are not to be bent like twigs. Nothing will be of any use to him now."

WILD FLOWERS.

WOOD ANEMONE.—(*Anemone nemorosa*.)

How pleasant are the woodlands during April and May, with the gentle waving of the young leaves, the song of joyous birds, and the sweet odours of violets, primroses, and other spring flowers! Then the Blue-bell waves to every breath of wind, and the Celandine glistens like gold, and the delicate Stitchwort bends so low as the wind passes over it, that we can hardly believe it will be left unharmed by the breeze.

But not one of these blossoms is more beautiful than that of our Wood Anemone, the Wind-flower of the older writers, and which is still called by this poetical name in some parts of our country. Whether it was named thus because it grows in the mountainous woods where the wildest winds blow, as well as in the sheltered valley; or whether because its petals are so light and delicate that the wind soon ruffles them, we know not. In many woods it is very plentiful, its light seed being wafted by the spring winds, and its tough roots creeping extensively underneath the surface of the soil.

We have, besides this, three wild species of Anemone, all of them

beautiful to look upon, but all possessing very acrimonious, and several of them highly-poisonous properties. Some of the species which grow on American pastures are well known to prove fatal to cattle. All our wild Anemones are in bloom during April and May, but no species is so common as that represented by the engraving. The beautiful Pasque-flower Anemone (*Anemone pulsatilla*) is not, however, a rare flower in some counties, where chalky soils abound: the blossom, which is much larger than that of the Wood Anemone, is of a delicate lilac colour. It is very silky, and its tint is so elegant that it is a favourite garden flower also.

The light blue Mountain Anemone (*Anemone Apennina*) is so rare a wild flower, that perhaps it ought rather to be regarded as having escaped from some garden near the spot where it may be found; and the yellow Wood Anemone (*Anemone ranunculoides*) is almost equally rare. It has a bright yellow blossom.

OUR NATIVE SONGSTERS.



THE BLACKCAP.

SECOND only in power and sweetness to the song of the nightingale is that of the Blackcap* (*Curruca atricapilla*), the rich notes of which reach us earlier in the spring, and are so gladsome, that the comparison of the old proverb, "As merry as a blackcap," seems very appropriate. The familiar name refers to the black patch on the head of the male bird, and the French call it *Fauvette à tête noir*, while the Germans give it the name of *Monk* or *Moor*. The Mock-nightingale is another familiar appellation for this favourite little singer. Mr. Main, in his excellent account of the singing of various birds, thus describes our blackcap and its music. "It is," he says, "the contralto singer of the woodland choir. The fine, varied,

* The Blackcap is five inches and three quarters in length. Upper parts ashy brown, becoming grey on the back of the neck; upper half of the head black; chin, throat, and breast grey; belly white; beak horn colour; feet lead-grey. The female is larger than the male, and more tinged with brown; her head is chestnut instead of black.

joyous song of this emigrant is noticed by the most listless auditor; the strain occupies about three bars of triple time in the performance, and, though very frequently repeated, is somewhat varied in every repetition. He begins with two or three short essays of double notes, gradually crescendo up to a loud and full swell of varied expression. One passage often occurs, as truly enunciated as if performed on an octave flute. The style and key of the song are nearly the same in all individuals, though some may be noticed to vary in style. I knew one bird that frequented the same spots of a wood for three summers, who signalised himself by an arrangement of notes very much excelling his brethren around. The blackcap is certainly the finest singer of the whole tribe of warblers, except the nightingale."

Nor is the author peculiar in his opinion of this value of the song; few well acquainted with the notes of our woods would differ from him. Though it has less volume and richness than that of the bird of night, yet it is more gay and sprightly, and, as Bechstein remarks, is more easy and flute-like in its tones than the strain of the nightingale; nor are there wanting some good judges of the singing of birds, who prefer the song of the blackcap to that of any other of our British woods. The night-singing for which our Philomel is so remarkable, is not confined to it alone. The blackcap has a tune, too, for him whose course may lie through the country when night has far advanced, while the sedge-bird sings from its reeds in the marsh, or the water-ouzel is in full song by the banks where the silent waters are gliding onward to the sea. Good ornithologists, when listening to the strains of the blackcap at night, have mistaken them for those of the nightingale; and Mr. Dovaston once heard one, at night, singing so like that bird, that he asks whether it may not be possible that this blackcap, in its passage through the south of England, resting in the night, had heard the nightingale sing, and retained in its memory a portion of the song. Our blackcap is, indeed, often said to be a mocking-bird, from its peculiar power of imitating the strains of other songsters. It will give so exactly those of the thrush and swallow, that were the bird not seen, the most practised ear might be misled by the deception. Mr. Dovaston, who calls it the "Burns of birds," remarks that he has not only a perfectly original style of his own, but, like a poet of all genius, he sometimes hardly knows what he is about, and has, regardless of Aristotle and the unities, neither beginning, middle, nor end; while after the highest flights, he sometimes suddenly breaks off into his chat, chat, chat, of homeliest prose.

The melody of the blackcap may often be heard in the scantily-leaved woods of April, or in the parks and orchards where, however, it contrives to screen itself from view, being of a remarkably shy and recluse nature. A month later, when the foliage is thicker, its song is more frequent, but it generally issues from some leafy covert, save when the bird believes itself to be quite alone, when it will sit on the very top of a tree, and pour forth its gladness, its throat swelling with the utterance. But if some lover of nature comes hither to search for the wild hyacinth or anemone, or to breathe the sweet odours of leaf or flower, or to delight in the harmony of the grove, away flies the blackcap among the trees, from branch to branch, till it is quite hidden. The female bird sings too, though less loudly, and a song may sometimes be heard from the nest, as the male bird shares with the female in the cares of rearing the young family. Though not quite so domestic as his companion, or capable of remaining with so much steady perseverance in one spot, yet he seems very happy, too, in taking his share of sitting on

the eggs, and sings so loudly and sweetly out of his glad heart, that the song has sometimes led to the discovery of the nest. When in captivity, the bird's note is scarcely inferior to that carolled in the boughs; yet it seems hard to keep the little creature in confinement, for so strong is the instinct for migration at the proper period, that the blackcap will then fall ill and die. And thus, those who take those wild creatures and love them well, yet inflict upon them the saddest sorrows. If, at this time, the moon shines brightly into the room where the bird is hung it becomes most sensibly affected, for it is on moonlight nights that these migratory journeys are commenced. In vain the poor bird flaps its wings, and makes every restless and distracted effort to escape from the cage; it is compelled to endure the anguish thus often thoughtlessly inflicted, and perhaps to perish from its inward agony of emotion.

Of all our wild birds, none is known to be of a more affectionate disposition than our little blackcap. This is shown when in captivity by its love to the person who attends it. At the approach of its owner, it will utter a call kept for him alone, and the voice becomes quite expressive of tenderness towards him. It will rush against the bars of the cage as if to reach him more nearly, and accompany its little cries of recognition by a joyous clapping of its wings. Bechstein had one, which, during the winter, he kept in a hot-house, and which he fed whenever he entered, with a meal-worm. Immediately on the entrance of its master, the little bird would place itself near the jar in which these worms were placed, and if he pretended not to notice it, it would fly about, passing continually under his nose, then go back to its post, and then repeat the flight, striking its master with its wing, till its impatient wishes were gratified.

Nor is the affectionate character of the blackcap shown only to man. Its love for its mate is very tender, and its solicitude for her and its young most marked. If deprived of its liberty with its family, it will continually feed the young ones, and even force its distressed mate to eat, when sorrow has taken away from her all appetite. In the wild state, and when the little ones quit the nest, they will all follow the parent birds, hopping from branch to branch, in company; and at night, the whole family perch on one branch, a parent bird at each end, guarding the young ones which are placed in the middle. They seem to dislike cold, for they all press closely against each other; and the blackcap, when kept in a cage, spreads some of its feathers over its feet to keep them warm.

One cannot help feeling a great liking for a little bird so gentle, and capable of exhibiting so much attachment. We instinctively prefer it to the species less susceptible of this. We know that it is not the result of thought, but the natural impulse of the kind; and that the wild waywardness of the cuckoo, and its consignment of all care of its young to the stranger bird, is as much its implanted instinct as is the winning disposition of the blackcap; but, as it is in our regard to individuals of the human family, after making every allowance in unpleasing dispositions, either on the score of natural or hereditary temper, or of ill-training, so we still turn away from the unlovely to give our regards to the loving and the loveable.

The blackcap usually arrives in our land about the first week in April, and leaves us in September, one or two lingering, now and then, as late as October. Directly it arrives, it begins looking about very carefully for a good place for its nest, and is exceedingly particular in this selection. Gardens, orchards, and thick hedges, are its favourite haunts; and it builds

among the interlacing boughs of the bramble bush, or among the thick branches of the hawthorn, whose boughs are now in leaf, and will soon be adorned with the scented clusters of spring. The nest is rarely found above two or three feet from the ground, and is made of the dried stems of the common goosegrass or cleavers, and a small portion of wool; and lined with fibrous roots occasionally interspersed with a few long briars or studded on the outside with tufts of some green moss. Four or five, or sometimes six eggs are deposited in it. They are of a reddish-brown tint, mottled with a darker hue, and sometimes spotted with tiny dots of an ash colour. The female bird is larger than her mate, and the top of the head is dark brown instead of black.

The blackcap is chiefly a fruit-eating bird, though sometimes feeding on insects, and taking them very dexterously when on the wing. On its first arrival there are few berries to offer it a repast, save those of the ivy, and it is among the dark-green boughs of this plant that the earliest song of the bird is often uttered. It is especially fond of these berries, so much so that the Italians, among whom it resides constantly, know it by the name of *caponera d'edera*,—hedera, or edera, or hedra, being the name of the ivy in several European countries. In our own land, when the ivy berries are over, the larvæ of various moths and insects are lying rolled up in the young buds of trees and flowers, and there the blackcap finds a meal for itself and young ones until the summer has ripened the fruits. But when the currants glisten from the bough, and the strawberries from the bed, and the glossy cherries are crimsoning among the leaves, our bird knows how to turn to account the care of the gardener, and deliberately helps itself to the very finest and sweetest of the fruits as if to repay itself for its destruction of the insects, which, but for its efforts, might have fed on them instead. There is no sort of fruit or berry which comes amiss to the bird save those which are poisonous; and when the black fruits of the elder-tree appear, the blackcaps find a delightful harvest. When they have cleared the trees of these, they depart to other lands.

This bird is one of those known as the *beccafico*, and, notwithstanding its small size, and its sweet singing, is highly prized by epicures on the Continent. It is so shy and suspicious, however, that it is not easily lured into a trap. It is found during summer throughout Great Britain; and occurs frequently in the greater portion of Europe, being widely diffused through the northern and eastern countries. In Madeira, as well as at Rome, it appears to be permanent.

LUNDY ISLAND.—No. II.

A LITTLE beyond the half-way wall we were introduced to "The Templar," a colossal human face in profile, sculptured by nature out of the rock. It forms a projecting point, one of those corners which, from the southern end of the island, we see standing out at the upper extremity of the bevelled slope; an enormous block of granite, rudely split and shivered by the elements, but accidentally fashioned, as you look at it in bold relief against the sky, into so perfect a resemblance to the features of a man, that one can scarcely believe that it has not been touched by an artist's chisel. The features are bold and masculine, the nose sharply aquiline, the mouth compressed with a determined expression, the forehead projecting, the chin a little double, the neck muscular and swelling; the head is covered with a

low round skull-cap, furnished with a projecting peak in front: it requires, indeed, no stretch of fancy to imagine we see in it the portrait of one of those warlike Knights of the Temple, to whom the island at one period belonged.



THE TEMPLAR.

We noticed here a curious phenomenon, with which our prolonged stay on the island made us sufficiently familiar afterwards. On looking back to the southward, we perceived everything distinct and palpable, except the lighthouse, the summit of which was enveloped in a semi-transparent haze, that streamed off some distance to leeward like a white veil. We were informed that it is a common thing for the fog to lie on the heights of the island, while the sides, the beach, and the sea, are perfectly free from cloud; hence the elevated parts are generally moist, and thus, doubtless, those springs are fed which issue from these lofty moors and trickle down on either side.

Farther on, still keeping along the inner or eastern side, a romantic glen opens, very boggy, and therefore difficult to be explored. By means of the tufts of a sort of grass that grows here, however, we managed to make our way some distance down it. This plant grows in large stools or tussocks, formed of the densely-matted leaf-bases of successive seasons; some of which are eight or ten feet high, and two feet in diameter. An agile person might leap from one of these to another, and so traverse the valley without wetting his feet. Through the gully we had a view of Gannet Cove, as also of Gannet Rock, an insular mass lying off one of its points; and here we saw the first outpost of the grand army of birds that we had come to visit. We pushed up on the opposite side of the valley, through the tall fern, which was growing excessively rank, reaching about as high as our heads,—sat down a few moments to rest, and amused ourselves by seeing which could cut the fern-stalk so as to produce the most effective royal oak. Perhaps some of my readers may like to amuse themselves in the same manner: if you have never seen it done, select a stout leaf of the common brake-fern and pull it up from the roots, then with a sharp knife cut the stalk across slantwise, in the black part that is ordinarily immersed in the soil, when the section of the vessels will display a very pretty semblance of a well-grown oak-tree, either tall or widely spreading, according to the direction in which you make the cut.

In the vicinity we found some interesting plants. The beautiful blue skull-cap was growing in the streamlet that trickled into the gully: higher up the pretty little yellow pimpernel, or wood loosestrife, was abundant; and so was the bog pimpernel, as, indeed, we found it widely spread over the north end and centre of the island. Mr. Heaven mentioned his having met with the much rarer blue pimpernel on some former occasions; but it did not occur to us. Among the brake the wild hyacinth yet lingered in flower, but was found more numerous in fruit. The dwarf red-rattle, a

lowly denizen of waste places, scarcely rearing its rosy vaulted head above the level of the moss in which it grows, occurred here, together with its usual companion, the bird's-foot lotus. The small upright St. John's wort, an exquisite flower, the tiny eyebright, and the milkwort of the rich blue variety, were also among the plants we gathered here.

But now we were approaching the scene which had been the chief object of our curiosity. Near the northern extremity of the island stands a huge oblong block, like a square column, called the Constable: we pass this, and the wondrous spectacle suddenly bursts upon us. Much as our expectations may have been excited, they were in nowise disappointed; though my companions were not like myself naturalists proper, we were unanimous in declaring that the sight was more than worth the voyage, sea-sickness and all; it was a scene, the witnessing of which must always stand out prominently in memory, as one of the remarkable things of which an ordinary life can reckon but few.

We turn the corner of a pile of rocks, and we stand in the midst of myriads of birds. We are on an inclined plane, extending, perhaps, half-a-mile down to the sea-cliffs, composed of numberless hillocks of red earth, on which lie, heaped irregularly, and partially imbedded in the soil, great boulders of the granite rock. On these, on the hillocks, and in the hollows between, sit the birds, indifferent to our presence, until within two or three yards of them, when they turn the large liquid eye towards us, as if demanding the meaning of the unwonted intrusion. If we avoid sudden motion, we may approach still closer; but generally at about this degree of proximity the little group congregated on the particular stone or hillock leap up, spread their short feeble wings, and fly with a rapid laborious beating of the air, out to seaward. The flight is painfully feeble at first, but presently gathers strength and becomes more forcible, though always fluttering.

The great congregation of birds begins just hereabouts; the cover of fern to the southward, which we have been skirting, is not suitable to their habits; but it extends as far as the eye can reach, and is not then bounded, but spreads on around the north extremity of the island, far down on the western side.

The air, too, is filled with them like a cloud. Thousands and ten thousands are flying round in a vast circle or orbit, the breadth of which reaches from about where we stand to half-a-mile seaward. They reminded me strongly, with their little wings stretched at right angles to their bodies, painted in black against the sky, of the representations we see in astronomical works of the fixed stars arranged in the Ptolemaic system in a crowded circle around the sun and planets. If you attend only to those near you, they seem to rush on in one direction in an unceasing stream; and you wonder what can be the purpose, and what the terminus of the universal migration; but when your eye has followed them a little, you perceive the circular movement, that the same birds pass before you again and again, as they come round in their turn, like the movers in a theatrical procession, that cross the stage and pass round behind the scenes to swell the array again.

But the earth and the air are not the only spheres occupied by these birds; look down on the sea; its shining face is strewn, as far as you can discern anything, with minute black specks, associated in flocks or groups; some comprising few, others countless individuals. These, too, are the birds, busily employed in fishing for the supply of their mates and young, or resting calmly on the swelling undulation.

The fearlessness manifested by those that are sitting around us, permits us to observe them at leisure. They are principally of two kinds; the smaller has a round large head, with a beak monstrously deep and high, but thin and knife-like; and as if to make this organ more conspicuous, it is painted with red, blue, and yellow. The legs and large webbed feet are orange-coloured; and these, too, are sufficiently remarkable in flight, for the bird stretches them out behind, somewhat expanded at the same time, in such a manner that they appear to support the short tail, the broad feet sticking out behind. The whole of the upper plumage is black; the face, sides of the head, and under parts, pure white, except that a black collar passes round the throat. These are known by the fishermen as sea parrots, or coultenebs; but are more generally designated in books as puffins.

The other species is larger, being nearly as big in the body as a duck, but shorter in the neck. The beak is formed on the same model, but is more lengthened; and it, as well as the feet, is black. The general proportions are more those of ordinary birds; and though the distribution of the hues of the plumage, black and white, is nearly the same as in the former species, the black covering the whole head and neck, combines, with the other differences I have mentioned, to render the discrimination of one from the other easy, even at a great distance. This is the razor-billed auk.

These two species furnish the principal part of the individual birds that are congregated just here. But when we get round yonder point we shall open the haunts of several other kinds, almost as innumerable as these. It must not, however, be supposed that they keep their localities so strictly as not to intermingle in any degree. From the point where we stand, we may with a little care be able to discern individuals of all the kinds, more or less numerous. The different species of gulls, in particular, amounting to four or five, are conspicuous for their long pointed wings and elegant sailing flight. They are wary and alert; we do not see them sitting still as we approach, as the puffins and razor-bills do, but before we can get within gun-range they are on the wing. Then, as conscious of their powers, they are bold; sweeping by over our heads, with a querulous scream; now and then swooping down and making as if they would dash at our faces, but taking care to swerve as they come close, and gliding away with the most graceful ease and freedom.

Let us examine for a moment the ground beneath our feet. We need caution in moving about, for the tussocks and mounds feel precariously hollow and spongy; now and then the foot breaks through, and the whole leg is buried in a dusty cavity that gives forth an insufferable odour of guano; then as we jump on a hillock, it totters and breaks off from its base to roll down the hill, laying bare an interior riddled with holes like a honeycomb. These hillocks themselves are nothing but enormous tufts of the common thrift or sea-lavender, so often used for edgings in cottage gardens: the plant in a succession of years assumes a dense hemispherical form, while the decay of the old leaves forms a reddish spongy earth, which constantly accumulates, and constitutes the soil on which the living plant grows.

Under the projecting shelter of one of these tussocks we found a nest of one of the gulls, the lesser black-backed species as was supposed. It was a platform made of the redleaf-bases of the thrift, dry and brittle, on which lay one young chick and one egg. The latter was larger than a hen's egg, of a dark greenish hue with black spots; it was on the point of hatching, for I distinctly heard the feeble piping of the impatient chick

within, whose beak had already begun to chip the shell. The hatched young one, a tiny creature, covered with pale-brown down, lay quite still with shut eyes, which it opened for a moment when touched, to close them again in stoical indifference.

Presently we came upon another nest, containing one young rather more advanced; its clothing of down prettily spotted with dark-brown. Then another with two eggs of a dirty white, mottled and splashed with brown, which was conjectured to belong to the glaucous gull, a powerful and handsome bird seen hovering about, of snowy-white plumage, except the back and wings, which are of a delicately-pale bluish-grey.

The whole atmosphere was redolent with the strong pungent odour of guano, which, as everybody knows, is the excrement of fish-eating birds, collected from the rocks on which they breed, where it has accumulated for ages. The same substance was splashed upon the stones and earth wherever we looked; we saw it falling through the air; our clothes were spotted as if with whitewash; and we scarcely dared to gaze upwards on the circling flocks, lest our eyes should suffer the misfortune of Tobit.

It is to the puffs that the burrows with which the soft vegetable earth is honeycombed are chiefly attributable. The whole island is indeed stocked with rabbits, and their warrens (or buries, as the local phrase is) are very numerous. The puffin does not hesitate to appropriate these whenever he can; but as there are many more birds than beasts, the former are generally compelled to excavate for themselves: this is effected by means of the powerful cutting beak, to the depth of two or three feet. At the bottom of the hole the egg is laid, never more than one. We saw several egg-shells, from which the young had been hatched; they were nearly as large as hen's eggs, of a dirty whited-brown tint, which is said to be derived from the soil, as they are purely white when first laid. We had no means of digging them out, and we did not choose to explore the burrows by thrusting in our arms; for the puffin, if at home, would have given our intrusive fingers such a welcome with his strong and sharp beak, as we might not soon have forgotten.

Mr. Heaven informed us of a curious habit in the economy of these birds. Immense numbers come to the breeding-place in April to reconnoitre the ground: they remain three or four days, then disappear so completely that not a single bird is to be seen. In about a fortnight they return for good, and set about the work of family-rearing. Then mortal combats may be witnessed; the rabbit and the puffin fight for possession; the old buck stands up in front of his hole, and strikes manfully, while the knife-beak of the dishonest bird gives him a terribly unfair advantage. Sometimes two male puffins contend; each strives to catch his adversary by the neck; and when he can accomplish it, shakes and holds him with the tenacity of a bull-dog.

Auks and guillemots likewise bear a part in the exploratory April visit; but not in such numbers as the puffins.

One of our party knocked over a puffin with a clod of earth, just to examine it. We did not wish to destroy them, and therefore abstained generally from throwing. It was stunned, and lay in our hands while we admired the thickness and closeness of its plumage, beautifully clean and satiny, especially the white parts. Presently it began to open its large dreamy grey eyes, so singularly set in scarlet eyelids: we did not wish to prove the keenness of its beak, and therefore laid it on a rock in the sun, when no doubt it soon recovered.

It must not be supposed that this was any feat of skill in the marksman. It would have been perfectly easy to have procured hundreds in the same way. Our friend assured us that he had himself knocked down six with one stone; and that he had seen twenty-seven bagged from a single shot with an ordinary fowling-piece, not reckoning many more which were knocked over, partially wounded, but which managed to fly out to sea.

We walked on a few rods further. The character of the declivity continued pretty much the same; but we had opened a point of the distant cliff which was cut into a series of rocky ledges, like a wide flight of steps leading to some magnificent building. On these were seated a dozen or twenty gannets, beautifully snow-white birds, with black tips to their wings, larger than geese. We could easily have scrambled to their rock, but our friend was reluctant to have them disturbed. This fine bird used to be numerous here; and Gannet Cove and Gannet Rock received their appellations from the hosts of these birds that used to make that neighbourhood their resort; but having been much annoyed by idle gunners from the main, they had deserted the island, it was feared finally. Lately, however, a few pairs have returned, to the gratification of the proprietor, who is desirous of their increase. In truth, they are noble and beautiful birds; their long pointed pinions enable them to wheel and glide about in the air, to soar aloft, or swoop, or float on motionless wing at pleasure with the utmost grace; while the contrast of the black wing-tips with the general whiteness of the plumage cannot fail to elicit admiration. As they sail near, we perceive that the neck and poll are tinged with buff; but this exception to the general purity of the vesture is not at all conspicuous, nor universal. Their cry is, "crak, crak, crak," uttered on the wing. The snowy purity of the mature plumage is said to be reached through several alternations of opposite hues. The young, when newly hatched, are black and quite naked: their first coat of down is white; this is succeeded by a plumage of black slightly spotted with white; and this by the spotless white investiture in which we saw them.

Another reason why the gannets should not be disturbed, while so few as they yet are, is the bold piratical character of the larger gulls. These are ever on the watch to destroy the eggs of the gannet, the moment both the parents are flown. We had a proof of the ferocity of these predaceous birds before our eyes. As we were looking down the slope, we saw a glaucous gull emerge from a puffin's hole into which he had just crept, bringing out the little black puffin-chick. We watched the marauder shake his victim and give it repeated blows with his beak, the poor little thing now and then crawling away feebly, just as a mouseling does when half-killed by a cat. We began to run towards the spot, the gull taking no notice till we got pretty near, when he turned up his eyes and gave us a look of impudent defiance, then deliberately seized his prey in his beak, and bore it off triumphantly far out to sea. The larger gulls will sometimes swoop down upon a group of puffins sitting on the sea, and snatch up an adult from the flock in their powerful beak. Mr. Heaven has seen this done.

Our attention was here pointed to a new bird. On the lower ledges of the wide stair-like rock occupied by the gannets, sat in little crowded rows, many birds about as large as pigeons, which in form and in the colours of their plumage they much resembled. They were the kittiwake, the smallest of the gulls that can properly be called indigenous to our shores. We afterwards made closer acquaintance with the species.

The shearwater is said to breed in the rocks hereabouts; but we did not notice it, nor do I know of which species it is. Nearly at the edge of the slope we observed a stout iron rod erected, standing some ten or fifteen feet high. On inquiry we found that this, with a corresponding one at some distance, is used for the support of a long but narrow net, which is stretched along like a wall at the edge of the precipice, to intercept the puffins. These birds, when they fly, shoot down in a straight line, just sufficiently above the ground to clear the rocks and hillocks; they thus strike the net, and are caught. They are also taken in numbers by dogs, which run upon them before they have time to fly; and in other modes, chiefly for the sake of their soft and abundant feathers.

From the spot where we now stood there extended a considerable space, almost covered with the wild hyacinth, as we could see by the fruit-bearing stalks. The contrast which this large belt presented when in flower, with the thrift which occupies as exclusively the range below it, was described to us as very curious and pretty; the whole forming two parallel zones, the one of blue, the other of pink. Large beds of coarse sorrel were prominent in the vegetation here; and the crevices and bases of the rocks were fringed with the singularly-cut leaves of the buck's-horn plantain, growing in unusual luxuriance. The pungent, peppery, scurvy grass we also found very fine.

We now approached the north-west point, the very extremity of the island; no slope of earth, but a wilderness of huge castellated masses of granite, piled one on another in magnificent confusion. By scrambling between and over these, we contrived to take a perch, like so many of the tenant-birds themselves, on the very verge of the stony point, whence we could look over on each side, and gaze on the boiling sea at the foot of perpendicular precipices. In truth this was a noble sight; the point was fringed with great insular rocks, bristling up amidst the sea, of various sizes, and irregular angular shapes, partially or wholly covered by the tide at high water, though now largely exposed. There was a heavy swell on from the westward, and as it rolled in with majestic rounded undulations, each mighty wave breasted up against the rocks, like a gallant army assaulting an impregnable fortress, and, spending its fury in a wall of mingled water and foam, shot up perpendicularly to an immense elevation, as if it would scale the heights it could not overthrow. The insulated masses, all brown with their leprous coating of barnacles, received the incoming surge in an overwhelming flood, which immediately, as the spent wave receded, poured off through the hollows in a hundred beautiful jets and cascades; while in the narrow straits and passages, the rushing water boiled and whirled about in curling sheets of the purest white foam, curdling the surface, or (where this broke away) of the most delicate pale pea-green, the tint of the bubbles seen through the water as they crowded to the air from the depths where they were formed, the evidence of the unseen combat fiercely raging between earth and sea far below. The breeze, which was blowing fresh, took off the crests of the breaking seas, and bore the spray up to the height where we stood; while the foam, as it formed and accumulated, was seized by the wind in broad masses, and carried against the sides of the projecting rocks, flying hither and thither like fleeces of wool, and adhering like so much mortar to the face of the precipice, until it covered great spaces, to the height of many fathoms above the highest range of the tide. Looking over the battlemented margin of the platform on which we stood, we could see the entrance of a fine cavern, sixty feet in height, about thirty in width,

and perhaps eight hundred in length. It completely perforates a projecting promontory, the part of the coast, indeed, which we had been skirting, on which our principal observations on the birds had been made. A boat can go right through, but only at high water, because there is a rock in the midst of the course, which, at any other state of the tide, leaves too narrow a channel on either side. But the most interesting fact connected with the cavern is, that a spring of fresh-water is said to rise in its centre, bubbling up through the sea-water that overlays its mouth. Mr. Heaven could not vouch for this on personal observation; but the well-known occurrence of similar phenomena renders credence in this case no great difficulty. The breaking of the sea into the mouth of the cave, narrowed as it is, and the reverberation of its hollow roar from the sides of the chasm, were particularly grand and striking.

PUBLIC DEBT.

In a former article there was given an account of the amount of the debt, and of the interest paid during the period from 1822 to the end of 1851; it was stated that in the course of a few years, the annual charge would undergo a diminution exceeding 3,000,000*l*. The following table will show how this diminution will be effected :—

	Per Annum. £.
1854, Oct. 10. Saved by reduction of 3½ per Cents. into 3 per Cents. - -	600,000
1859, Oct. 10. Annuities for terms of years to expire - - - -	306,000
1860, Jan. 5. Ditto Ditto - - - -	306,000
Long Annuities to expire - - - -	1,293,500
Sundry Annuities to expire at various periods during next ten years - - - -	302,000
Proportion of Tontine and other Life Annuities that will probably fall in during the next ten years - - - -	400,000
1867, April 5. Annuity held by the Bank of England to expire - - - -	585,700
	<u>£3,793,200</u>

FOUNDLING HOSPITALS.

THESE institutions are founded on most mistaken principles: they are intended to relieve indigent parents from the burden of their children; while in reality they deprive the children of the maternal and paternal care which the providence of God had awarded them. The annals of these institutions give most melancholy details: among many we may select that of Dublin. In the thirty years preceding January 1825, it had received 52,150 infants: of these 14,613 had died infants; 25,859 were returned as dead from the country, where they had been sent to be nursed; 730 died in the infirmary after returning; 322 died grown children—total deaths 41,524. So that 10,626 only escaped this fate. These facts are taken from a parliamentary return. Similar institutions in foreign countries give still more deplorable results.

THE GOOD PARSON.

From Chaucer.

A TRUE good man there was there of religion,
 Pious and poor—the parson of a town,
 But rich he was in holy thought and work ;
 And thereto a right learned man ; a clerk
 That Christ's pure gospel would sincerely preach,
 And his parishioners devoutly teach.
 Benign he was, and wondrous diligent,
 And in adversity full patient,
 As proven oft, to all who lack'd a friend.
 Loth for his tithes to ban or to contend,
 At every need much rather was he found,
 Unto his poor parishioners around
 Of his own substance and his dues to give,
 Content on little for himself to live.

Wide was his cure ; the houses far asunder,
 Yet never fail'd he, or for rain or thunder,
 Whenever sickness or mischance might call,
 The most remote to visit, great or small,
 And staff in hand, on foot, the storm to brave.

This noble ensample to his flock he gave,
 That first he wrought and afterwards he taught.
 The word of life he from the gospel caught ;
 And well this comment added he thereto,
 If that gold rusteth, what should iron do ?
 And if the priest be foul, in whom we trust,
 What wonder if the unletter'd layman lust ?
 And shame it were in him the flock should keep,
 To see a sullied shepherd, and clean sheep.
 For sure a priest the sample ought to give,
 By his own cleanness, how his sheep should live.

He never set his benefice to hire,
 Leaving his flock accoutred in the mire,
 And ran to London, coggng at St. Paul's,
 To seek himself a chauntry for souls,
 Or with a brotherhood to be enroll'd ;
 But dwelt at home, and guarded well his fold,
 So that it should not by the wolf miscarry :
 He was a shepherd and no mercenary.

Though holy in himself, and virtuous,
 He still to sinful men was mild and piteous ;
 Not to reproach, imperious, or malign,
 But in his teaching, soothing and benign ;
 To draw them on to heaven by reason fair,
 And good example, was his daily care.
 But were there one, perverse and obstinate,
 Were he of lofty or of low estate,
 Him would he sharply with reproof astound :
 A better priest is no where to be found.

He waited not on pomp or reverence,
 Nor made himself a spiced conscience ;
 The love of Christ and his apostles twelve,
 He taught, but first he followed it himself.

THE
HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

PUBLISHED EVERY WEDNESDAY,
BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE,
No. 50.] AND SOLD BY ALL BOOKSELLERS. [PRICE 1d.

THE EDDYSTONE LIGHTHOUSE.



THE rock in the English Channel upon which the Eddystone Lighthouse stands is rendered remarkable, not only by the present building, but by the incidents attendant on the construction of those which have successively been erected upon it; and the narrative by Smeaton of these arduous

undertakings well deserves our notice, as exemplifying the results of no common skill and perseverance, crowned at last by a success which we trust may now be considered as permanent.

The Eddystone reef of rocks, so long and so well known to mariners, lies about ten miles from the nearest point of land at the entrance of Plymouth Sound, and is so exposed to the heavy swells from the Bay of Biscay and the Atlantic Ocean that the waves frequently break over it with a fury that is almost incredible. The rocks are a lamellar kind of granite, and are supposed to have taken their name from the great variety of contrary *sets* of the tide, or current, as it flows among them, from the different points of the British Channel. Their particular form and position is a circumstance that greatly tends to increase the force and height of the seas which break over them; and previous to the erection of a lighthouse, many were the vessels doomed to inevitable destruction from unwarily coming upon them. They not only stretch across the Channel in a north and south direction, to the length of six or seven thousand feet, but also lie in a sloping direction towards the south-west, which *stiving*, as it is called, continues to a great depth; so that, when the seas are swollen with storms, they break upon the slope of the rocky bottom with perilous fury and violence. Even after moderate weather has for some time succeeded, the ground-swell continues, for many days, to render landing almost impossible.

The three principal ridges of the Eddystone rocks have been distinguished by the relative names of House Reef, South Reef, and East Reef. The lighthouse is on the first and highest of these, which is about sixty-five feet in diameter at low water. The landing-place is formed between it and the south reef, which affords some shelter for a boat at low tide. In this creek there is at that period but one fathom of water; but in all other directions from the rocks the water suddenly deepens to fifteen or twenty fathoms, and at greater distances to forty or fifty fathoms.

From their position, the Eddystone rocks render an entrance into Plymouth Sound extremely hazardous; and the many fatal accidents which occurred to homeward-bound ships made it desirable that some beacon should be erected on them to warn the mariner of his peril, when foggy nights or high water shrouded such dangerous rocks from his view. The formidable nature of the undertaking long deterred the most enterprising from attempting the construction of a lighthouse; but in the year 1696 an individual had sufficient courage to undertake the arduous task. This gentleman was Mr. Henry Winstanley, of Littlebury, in Essex, who had so long been distinguished for his mechanical contrivances as to be termed the "Merlin" of his day. Being furnished with the necessary powers from the Trinity House, under the authority of a statute made in the reign of Queen Elizabeth, for "~~setting up marks and signs for the sea,~~" he immediately commenced an undertaking, which occupied ~~no less~~ than four years in completing. "Not for the greatness of the work," remarks Mr. Winstanley, in the narrative which he addressed to Prince George of Denmark, then Lord High Admiral of England, "~~but for the difficulty and danger in getting backwards and forwards from the place: nothing being, or could be, left safe there for the first two years but what was most thoroughly affixed to the rock; and though no work could be attempted but in the summer season, yet the weather even then would sometimes prove so bad, that for a fortnight together the sea would be so raging about these rocks, caused by out-winds and the running of the~~"

ground seas, coming from the main ocean, that however calm the weather might appear to be in other places, yet here the sea would mount and fly more than two hundred feet over the spot, burying all the works, and preventing me from approaching, except to see my work imperfectly at the distance of a mile or two."

From the hardness of the rock, and the short time allowed by the tide and rough weather for a landing, the distance from the shore, and the frequent journeys made when there could be no landing at all, the first summer was entirely occupied in merely making twelve holes in the rocks, and fastening twelve great irons to hold the work that was afterwards to be done. The next summer was spent in making a solid round pillar, twelve feet high and fourteen feet in diameter. This afforded some degree of shelter to the workmen, and also gave them more time to work on the spot. From Mr. Winstanley's account it appears that they had no store-vessel for materials moored by way of constant retreat, but performed the work of conveying materials by single journeys, securing them at night on the rock, or returning them again to the boats when they left work. The third year the work was raised to the height of eighty feet, and when finished, with the lantern and all the rooms in it, "we ventured," says Mr. Winstanley, "to lodge there soon after Midsummer, for the greater despatch of the work. But the first night the weather became bad, and so continued, that it was eleven days before any boats could come near us again; and not being acquainted with the height of the sea's rising we were almost all the time drowned with wet, and our provision in as bad a condition, though we worked night and day as much as possible to make shelter for ourselves. In this storm we lost some of our materials, although we did what we could to save them; but the boat then returning, we all left the house, to be refreshed on shore; and as soon as the weather did permit, we returned again and finished all, and put up the light on the 14th of November 1698; which being so late in the year, it was three days before Christmas before we had relief to get on shore again, and were almost at the last extremity for want of provisions. But by good Providence two boats then came with these, and the family that was to take care of the light; and so ended this year's work."

The fourth year, finding the effects that the sea had upon the lighthouse, "burying the lantern at times, though more than sixty feet in height," Mr. Winstanley surrounded the building with a "new work of four feet thickness from the foundation, making all solid for nearly twenty feet high;" and taking down the upper part of the first building, he enlarged every part, raising it forty feet higher than it was at first; and yet the sea, during storms, is described as "flying in appearance a hundred feet above the vane, and at times as covering half the side of the house and lantern, as if it were under water."

The lighthouse, thus finished, had more the resemblance of a Chinese pagoda than of a structure intended to resist the impetuous shock of overwhelming seas; and it was commonly said, "that in time of hard weather, such was the height of the waves, that it was very possible for a six-oared boat to be lifted up upon a billow and driven through the open gallery of the lighthouse." The settled opinion seemed to be that it must one day be overcome by the force of the mighty seas which washed against it; but the unfortunate architect himself was so convinced of its durability, that he expressed himself fearless of encountering the most

violent tempest that could burst upon its walls. These, as the event proved, were the fatal deductions of a mistaken judgment; yet still it does not detract from the merit of a construction, carried on with such heroic spirit, and under such apparently impracticable difficulties. The building remained in security until 1703, when, in the November of that year some repairs becoming necessary, Mr. Winstanley went down to Plymouth to superintend the workmen. When on the eve of departure for the rock, some friends intimated the danger to which the lighthouse was exposed in such tempestuous weather; but he replied, "He was so well assured of the strength of his building, that he should only wish to be there in the greatest storm that ever blew under the face of the heavens, that he might see what effects it would have upon its structure." Most fatally for the hapless architect his presumptuous wish was gratified. Two days after he landed from the Eddystone boat on the rock, and while engaged with his workmen and light-keepers, that dreadful storm began which raged so violently on the 26th of that month, and for its vast and extensive devastation appears to have been one of the most tremendous ever experienced in Great Britain. The next morning at daybreak the hurricane increased to a degree unparalleled, and the lighthouse, no longer able to sustain its fury, was swept, with all its ill-fated inmates, into the bosom of the mighty deep.

When, on the 29th, the storm had abated, boats put off to see if anything remained on the rock; but no trace was left, save a few large irons, by which the work had been fastened to the rock, and part of an iron chain, which had become so fast jambed between the rocks that it could not be disengaged, until it was cut out in the year 1756.

In a book called 'The Storm,' which was published in 1704, the loss of the Eddystone lighthouse is mentioned as a heavy calamity, and one which it was very doubtful would ever be remedied; while a model of the lighthouse in Mr. Winstanley's house at Littlebury is described as having "fallen down and broke to pieces on the same night." Not so ominous a coincidence as the author of the little book would have us believe, when we consider that the same general storm raged all over England. The lighthouse had not long been destroyed when the "Winchelsea," a Virginia trader, laden with tobacco for Plymouth, was wrecked on the Eddystone rocks in the night, and every soul perished. Though from this and so many former accidents the great utility of a lighthouse was glaringly apparent, yet a second was not commenced until the year 1706, after the making of an Act, vesting the duties payable by shipping passing the lighthouse in the Trinity House, and empowering the master, wardens, &c., to grant leases. In consequence of these powers, they agreed with a Captain Lovet for a term of ninety-nine years, commencing from the time that the light should be exhibited. Upon this agreement Captain Lovet engaged Mr. John Rudyerd (then a silk mercer on Ludgate Hill) as his engineer and architect; and the result proved that his selection was a judicious one; for although Mr. Rudyerd had not been bred to any mechanical business or scientific profession, his natural talents were of a high order, and well adapted for the undertaking; and being assisted by the personal experience of Messrs. Smith and Norcutt, both shipwrights from the dockyard at Woolwich, a second lighthouse was erected, which perfectly answered the end for which it was intended. In this the architect avoided the errors of the former building, choosing a circle instead of a polygon for the outline, and carrying up the elevation in that form.

Instead of adopting the unwieldy ornaments—the projecting cranes, and other contrivances, used by his predecessor, more as embellishment than for use—he combined simplicity with utility, judiciously seeing that ornaments misapplied, instead of showing taste, betray an ignorance of its first principles. Mr. Rudyerd's building was commenced in July 1706, sufficiently completed to display a light in July 1708, and the succeeding year it was finished.

It must be observed that the surface of the House rock slopes from east to west about eleven feet in twenty-four, which was the diameter of the foundation of the second lighthouse, and is within four feet of the greatest circle that can be made upon the rock. This inclined surface was divided by Mr. Rudyerd into seven ascents, or stages, on which the base of the structure was fixed by iron bolts, or cramps, each bolt weighing from two hundred to five hundred pounds, according to their different lengths and substances. One end of the iron bolts being fastened into cavities made in the rock, a course of squared oak balks was laid lengthwise upon the lowest stage, and of a size to reach up to the stage above; upon these a set of short balks were laid crosswise, and upon the next stage a set compoundedly; the fourth set was likewise placed lengthwise; the fifth crosswise, &c., till a basement of solid wood was raised two complete courses higher than the highest part of the rock; the whole being fitted together, and to the rock, as closely as possible; and the balks, in all their intersections with each other, trenailed together. They were also fastened to the iron cramps by large, bearded spikes, or jag-bolts, which were driven through holes made in the former into the solid timber. In this way, by building stratum upon stratum of solid, squared oak timber, Mr. Rudyerd was enabled to make a firm basement of what height he thought proper; but in addition to the above method he judiciously adopted the great principle in engineering, that weight is the most naturally and effectually resisted by weight. He considered that all his joints were pervious to water, and though a great part of the ground-joint of the whole mass was in contact with the rock, yet many parts could not be accurately so. The more effectually, therefore, to counteract the tendency of the sea to move the building in any direction, he interposed strata of Cornish moorstone between those of wood, and raised his foundation, solid, two courses above the top of the rock; he then put on five moorstone courses, each one foot thick. These courses were as well jointed as the skill of the workmen then permitted, and laid without any cement; but it appears that iron cramps were employed to retain the stones of each course together, and also upright ones to confine down the outside stones. Upon the five feet of moorstone a couple of courses of solid timber were then interposed, and these terminated the entire solid basement. Whilst employed in this part of the structure, a French privateer took the workmen, with their tools, from the Eddystone rock, and carried them to France, the captain of the vessel fully expecting to be rewarded for the achievement; but Louis the Fourteenth, with whom we were then at war, ordered the immediate release of the Englishmen, placing the captors in prison in their stead; remarking “that though he was at war with England, he was not so with mankind; that the Eddystone lighthouse was so situated as to be of equal service to all nations having occasion to navigate the channel between England and France;” and he then directed that the men should be sent back to their useful employment with presents. After this occurrence the workmen were protected by frigates. The solid part of this lighthouse was twenty-seven

feet above the highest part of the rock, excepting a passage of three feet in width, and a staircase which measured six feet nine inches square. The entry door was eight feet above the rock, and the ascent to it was by an iron trap ladder. From the top of the rock to the balcony and light-room this building was sixty-one feet in height, and, including the light-room and finishing ball on the top, was ninety-two feet in height. From the base, which was twenty-three feet in diameter, it sloped in a circular form to the cornice and balcony, where it was fourteen feet. The octagonal light-room was ten feet six inches across. This building sustained the frequent attacks of the sea in all its fury for upwards of forty-six years, and seems to have required little more than ordinary attention to keep it in repair. From the skill and judgment shown in its construction, it is extremely probable that it might still be resisting the winds and waves but for its having been destroyed by fire—an element against which no precaution had been taken, because no idea of danger had been conceived.

THE FERN TRIBE.—No. IV.

THE next family to which our researches amongst the Fern tribe will introduce us is very extensive. The *Aspidiaceae*, though divided into but three general heads—namely *Cystopteris*, *Polystichum*, and *Lactraea*—comprise under some of those heads so many different species and varieties, that it will be impossible to complete the survey of the whole family in a single paper.

The distinctive mark of this family is that its thecae are “in circular masses each covered by an indusium.” In the first genus, *Cystopteris*, this indusium is annexed to the frond at the insertion of the thecae, the cluster of which is lodged in it as in a cup. That margin of the cup which is not attached is striated and ragged. There is but one species of this genus in England, *Cystopteris fragilis*; but this one exhibits several varieties, which are respectively called *C. dentata*, *C. augustata*, *C. regia*, and *C. montana*. They are all plants of small size, rooting in fissures of rocks, or the interstices of stone walls, in moist and mountainous countries, and are widely distributed throughout Great Britain. They are all exceedingly elegant in appearance, erect in growth, and very brittle in texture, from which circumstance arises the English name of the genus, “Brittle Ferns.”

The true type of the species *Cystopteris fragilis* sends up many fronds, of from 10 to 12 inches high, from a small tufted root. They are lanceolate, pointed, smooth, and of a pale bright green; the stalk, brown or dark; naked about a third of its length, and with a few scales quite at the base. The masses of thecae are globular, numerous, and crowded together. When young they are pale, but when mature, blackish and so close together as to cover the whole back of the frond. The indusium is white, but it is soon either turned back and obliterated, or forced off by the shining dark capsule. The fronds are developed early in spring, and mature quickly; the roots throw up a succession of them throughout the summer, but all perish with the earliest frost. It is unimportant (except to advanced botanists) to enter into the details which mark the different varieties of a species, and, therefore, leaving this elegant genus, we will proceed to examine the characteristics of the other members of its family; and here we come in contact with most of those “large leaves which grow in

hedges," to which we alluded in a former paper. The *Polystichum* and *Lastreas* are nearly allied. Under the first head are ranged but three species: the first, *P. aculeatum*, is one of our commonest Ferns, and is distributed pretty generally throughout the kingdom, growing in hedgerows; and, unlike those which we have lately considered as retiring before the approaches of man, and delighting in the wildest recesses of nature, this appears to delight in his proximity, and to increase and improve under cultivation, or even in the near neighbourhood of cultivated lands. Its roots are unusually long, strong, and tough, and twine in amongst those of the hazel and hawthorn, in the coppices and hedges where it grows, so as to require much labour in removing them. The young fronds rise in April, and are very graceful, from the curved and circinate form of both the rachis and the pinnæ: they are not fully expanded till July, and the fruit is mature in September. The fronds do not yield before frost, but retain their fine clear green uninjured till those of the succeeding year are fully developed; and, indeed, the same plant will often present the fronds of three or four years to view at the same time. The form of the frond is lanceolate, but generally narrower towards the base; the stem is very short, densely clothed with large reddish scales, which are very much crowded at its junction with the rhizoma. The frond is pinnate; the first upper pinnule (or leaflet) on each pinna (or branch) is much larger than either of the others, and usually twice as large as the first lower pinnule. It points directly upwards to the apex of the frond, but its summit is bent downward, and often passes below and beyond the mid-rib of the preceding pinna. The appearance of this double row of enlarged pinnules lapping over each other, and often amounting to 20, is very singular, the more so as each pinnule has a sharp spine at its extremity, and several smaller at the edges: each of the superior pinnules is slightly auricled at its outer edge, near the base, the auricle having a strong distinct spine near the base of the lobe. The fruit is confined to the upper portion of the frond. The indusium in all of this genus is attached by the centre only. *Polystichum lonchitis*, the Holly Fern, which was called by the men of ancient days "Milt-waste, or Great Rough Spleenwort," is found on the loftiest and barest mountains, but not very abundantly. Its roots are, like that of its congener, *P. aculeatum*, strong, black, and wiry, the rhizoma tufted and scaly. The time of year in which this Fern is in perfection is September and October; and although exposed to the wildest blasts, and most extreme cold of its mountain habitat, it stands throughout the winter unharmed. It is linear-lanceolate and pinnate; the pinnæ auricled, and spinous to a greater extent than that last described; the lower margins of the pinnæ overlapping the upper, and somewhat twisted, so as to give to the frond a very peculiar character. According to Newman, "The colour of this Fern differs much in different localities: in the Welsh and English plants it is a dull green, whilst in the Irish, and some of the Scotch, it is a full, rich, shining green, the substance thick and leathery, and the whole spike as rigid and prickly as a spike of little holly leaves; so much so indeed that the fronds cannot be flattened for drying without considerable difficulty." The involucre is circular, and attached from the centre by a short cord to the frond, round which cords the capsules are formed, which, as they mature, compose circular clusters, and these clusters a continuous line on each side the pinna, about equidistant from its midrib and margin.

Polystichum angulare is pretty generally distributed, but grows chiefly

in lowland districts and warm sheltered woods. The roots are like the last named, the stem bare about a fourth of its length, and densely clothed with large reddish scales. It is a weak and flexible plant, and graceful in its drooping habit, preferring a horizontal to a vertical position. A number of fronds issue from the crown of the rhizoma, and spread from a common centre in a very beautiful manner; unlike the prickly *Lonchitis*, it is soft and delicate in texture. Its form is lanceolate and pinnate, the pinnæ very numerous, the pinnules blunt at the apex, auricled at the base, distinctly stalked and serrated at the edges, each serrature armed with a spine. Every part of the under-surface of the frond abounds with reddish scales. There are several varieties of this species, indeed some are so distinct, that botanists are at variance whether they should not be considered as *species*, instead of mere *varieties*; but as Newman (who has hitherto been our guide) considers them all to belong to the same species, we shall not further enlarge on them, but proceed to the history of the individuals which compose that very wide-spread branch of our family, the *Lastræas*. Their "family arms" are a kidney-shaped indusium, attached by its marginal notch to the back of the veins. The exotic relatives of this branch of the *Aspidiaceæ* family are exceedingly numerous, and among them is numbered the *Baromez*, or *Scythian Lamb*, of which we spoke in our first number. In this country there are many species classed under this head—first, *Lastræ Thelypteris*, or the "Marsh Fern;" 2nd, *L. Oreopteris*, the "Mountain Fern;" 3rd, *L. Filix mas*, the "Male Fern;" 4th, *L. rigida*, the "Rigid Fern;" 5th, *L. cristata*, the "Crested Fern;" 6th, *L. spinosa*, "Withering Fern;" 7th, *L. multiflora*, "Roth's Fern;" and 8th, *L. recurva*, or "Bree's Fern." Some of these are very local, and one or two very rare; but all of them are to be considered as amongst those which add more of beauty and interest to our rural scenery than any others, unless we except that most exquisitely lovely plant which will presently come under our notice, the graceful "Lady Fern," *Filix femina*.

Wandering beside the rushing mountain streams on Dartmoor, and other wild localities, I have been so entranced with the magnificent luxuriance of the tufts of mingled Ferns (of which our *Lastræas* were among the most prominent), with the splendour of their growth, and the glory of their colouring, that I have quite forgotten the lapse of time, and that I had other things to do besides watching their motion as the wind touched their beautiful foliage, and the flashes of sunlight fell on them from between the branches of the trees. In those solitudes the wild old roots spread and grow unrestricted as to space, undisturbed by the hand of man or the foot of beast, and freely watered by the dews of heaven. The rivers, when swollen by the torrents from the mountain-fastnesses above, pour down with great force, deluging the wide rocky margins on either hand, and then subsiding as rapidly as they have risen, leave behind them a fertilizing deposit, which enriches the soil, and exceedingly beautifies the vegetation. There are groves of ancient *Osmunda*, with thousands of lovely little seedlings, springing up in emerald beauty from every crevice of the stones around them. There is the beautiful "Hard Fern" with its spiry foliage; the elegant "Lady Fern," clustering in graceful groups; the "Broad Fern," with its umbrageous deep-green fronds; and the "Male Fern," assuming all the varied forms which its protean habit allows. Then there is the dignified "Mountain Fern," lifting its beaded pinnules high aloft: above them towering oaks of almost Druidical antiquity, and

below, such a mass of herbage, such clusters of "flowers of all hues," flowers—

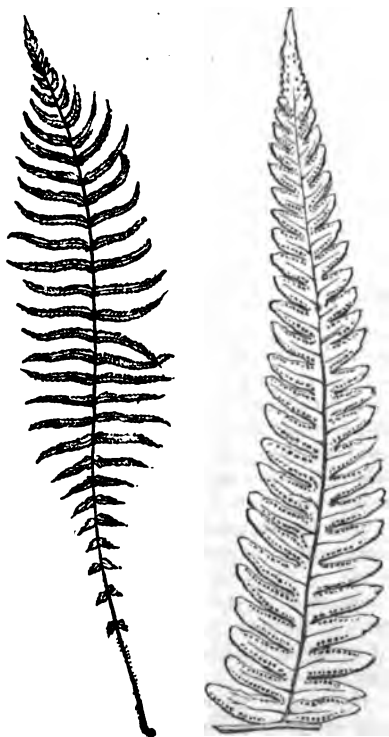
"Which not nice art
In beds and curious knots, but nature's boon
Pour'd forth profuse,"

that the eye is bewildered with the profusion and the variety of form and tint. How richly has our God provided for us; what beautiful supplies has he furnished, not only for our needs but for our enjoyment! Surely our hearts should "be set to keep the commandments" of so gracious a Father, so beneficent a Creator.

The first species we have to notice amongst the *Lastræas* is *L. Thelypteris*, the Marsh Fern, which occurs on boggy heaths, where the soft moist soil admits of its extending itself freely and rapidly. The roots are black and fibrous, and the rhizoma creeping and black. The fronds are some barren and some fertile, the former appearing in May, the latter in July. The fertile frond is taller and more robust than the barren; the margins of its pinnules are convolute, which gives them a narrower and more distant appearance. The stalk of the barren frond is long, smooth, and erect, and the pinnules crowded. The whole character of the plant is slender, delicate, and very fragile; the texture thin, and the colour pale green.

The capsules on the fertile frond are in nearly circular clusters, about midway between the margin and the mid-vein. In an early stage of the frond, a small, white, flattish, kidney-shaped involucre may be seen, but this soon withers, and is pushed aside and lost among the swelling capsules, and the clusters then become confluent, the half-membranous, whitish margin of the leaf partially covering them.

Our second species, the Mountain Fern (*L. Oreopteris*), is one of great beauty. As its name implies, it is an inhabitant of mountainous countries, but is not confined to the higher ground, being abundant, and in great luxuriance, in the valleys of those regions, especially near a running stream. This species appears to be confined to the continent and islands of Europe. The roots of *L. Oreopteris* are strong, tough, and penetrating, appearing to spread in every direction from a large, tufted, scaly rhizoma, which yearly increases in magnitude. This rhizoma forms a little knoll, from which the beautiful fronds, sometimes thirty or forty in number, and from two to three feet in height, rise like a coronal of feathers. The fronds are elongate, lance-shaped, and pinnate; the pinnæ gradually diminishing



MOUNTAIN FERN.

from about two-thirds of their length to the very base, the lower pinnae being nearly triangular and very short, a peculiarity which would alone be sufficient to distinguish it from all other British Ferns. The small portion of stem which exists below the pinnae is nearly hidden by pale-brown scales. But this lovely Fern has other characteristics which mark it: one is the remarkable and striking beauty of its fructification, and another, that over the whole under-surface of the plants are thickly-powdered small, yellowish, glandular globules, that adhere to the finger when touched, and exhale a powerful and aromatic odour, which impregnates the whole air around the growing plant. The capsules are in circular clusters, and arranged with a delicate regularity round the margin of the rounded pinnae, looking like an edging of minute beads. In the fresh frond these are jetty black and shining; and, contrasting with the very bright green of the leaf, have a most exquisitely-beautiful effect. The frond, however, soon withers when gathered, and when dried, this margin of bead-like thecae becomes brown. It is altogether a most attractive and lovely object. Closely associated with it is our third species, *L. Filix mas*, or the "Male Fern,"—a most magnificent species; but we must defer its description to our next paper.

IT'S OF NO USE.—No. VIII.

MARTHA's conclusions were generally too hastily drawn to admit of their proving very correct. This was the case in the present instance. The spectacle that Miles had thus witnessed made a powerful impression upon him. The boy's ludicrous manner as he sprang from one side of the imaginary shop to the other was so vividly before his eyes that he could neither shut it out nor cease to think of it. So annoyed was he that he could not bear to encounter either his wife or children, and he actually walked to the adjoining village, from whence he did not return till the latter were in bed. Martha, engrossed by other cares, had forgotten the whole circumstance: it was to her one of those events that amuse or interest for a moment, and are thought of no more. There are many such events as these in the career of all men, trifling in themselves, trifling to others, but of consequence to us. Human life is, for the most part, a series of trifling events passing so quietly along, that it is frequently not till we look back upon the past that we are sensible of their connexion with the present. God, in fact, works so silently, that though the impress of His power is on all that essentially concerns us, the wonder-working hand of His providence is often to be discerned only in its effect.

To the great relief of Miles he perceived that his wife thought no more of what had passed, and that she should not be reminded of it, he was unusually chatty, repeating the little news he had learnt at Morton. The next morning he was exceedingly careful to restrain himself. It was a very busy morning too, and the inclination to storm and rave, as his wife called it, was many times most powerful; still he resisted it. Argument, remonstrance, invective, reproaches he could have borne unmoved, but he was not proof against ridicule, and whenever he looked at little Jim, the thought of his boy's caricature of himself was as painful as it was humiliating. He was shocked too at having heard the child swear; and whilst he was annoyed at the contemptible appearance he had been shown he made in the eyes of others, his better principles were wounded by the reflection
 "as teaching his children to sin."

as the impression transient. From this time he continued to

exercise a degree of self-command to which he had been a perfect stranger. It was true that he had so long indulged the habit of impatience and irritability that with his utmost care there were times in which it again overcame him; but it was rare indeed that even on these occasions he was not recalled to moderation by a remembrance of the arbour scene. Whilst, however, he resolutely persisted in holding himself in check, and was particularly cautious in his language to his wife, he dreaded lest she should make any observation on the change which he thought it impossible she should fail to notice. But Martha did not perceive the alteration for some little time. She had been so accustomed to his manner, that his impatience had come as a matter of course, and her own system of retaliation and complaint had not altogether ceased when the cause of provocation was fast departing. All of a sudden she seemed to open her eyes to the fact, and she began to calculate when the improvement in her husband first took place. As she could not accurately determine this point, it never once occurred to her that all was owing to the representation to which she had invited him in the garden. She declared to Jane that her husband, like Collins, was quite another man; but how it came about and when he began to be different she could not exactly say, much as she wished to find it out.

Jane warmly congratulated her on the event, but entreated her to take no notice of it to her husband.

"What! don't you say anything to yours?" said Martha.

"No, indeed," replied she; "we are happy together now, and could I give him the pain of putting him in mind that we were ever otherwise? He was wrong once, very wrong, but whom did he anger? whom did he injure? His Maker and his God: and could he be liable to punishment, and his wife be no sufferer either in the thought, or no sharer in the blow when it fell? No, no, encourage Miles by cheerful looks and kind words to be good, and forget, if you can, that you had ever cause to think he was not."

"Ay, ay," replied Martha, "you are like a great many others of your mild kind of people, you always get your own way first or last; so as it's no use striving against it, you shall have it this time with me."

Jane smiled but made no reply; while Martha fidgeted about, and evidently showed by her manner that she had something she wished to say. At length she began by expressing a hope that Collins' prospects were becoming brighter every day. "You must be getting quite rich," said she; "both my husband and I think so."

Jane coloured deeply. Was there any allusion here to the loan so kindly lent by Miles, and did he begin to think a larger part of it should have been repaid than they had been able to return?

"Not rich," replied she, "though we have very much to be grateful for. Our difficulties were very great; and when once a person gets behind in the world, it takes a long time before he can get straight again, or as my husband would say, 'fetch up.'"

"Well, but you *are* better off than you were," said Martha, "and will be better still. I say, Jane."

"Well, what do you say?" inquired she, for Martha paused.

"Why don't you dress a little better than you do?" boiting the question out, as she expressed it afterwards to her mother.

"I am neat, am I not?" said Jane quickly, and somewhat confused.

"Neat," repeated Martha. "Oh you are neat enough, if that be all,

but that's not what I mean; your gowns are getting quite shabby; they have been washed and washed till they have not a bit of colour left in them. Now do have a new dress or two, one for Sunday at least; now do! Miles says he is quite hurt to see you so different from what you were."

Jane now dived clearly into her neighbour's meaning, the tears glistened in her eyes while she said:—

"I feel the kindness of you both as it deserves, but whilst we owe any one a bill, I will not buy a single thing that I can avoid: they who are in debt have no money of their own to spend, and as I would not ask a creditor to purchase me a gown, so I will not purchase myself one with his money. Necessaries I must have, and the honest intention of paying every one as soon as we are able, permits me to buy these without an uneasy feeling; but more than this I could not do without accusing myself of dishonesty. Yes, and if the truth be told, I should feel far greater mortification at the idea that others were of the same opinion when they saw me smart than I could do at the thought that they might say as I passed them, 'How shabbily that poor woman is dressed!'"

Martha looked at her with pleasure, though she felt disappointed.

"You are a good creature," said she, "there's no denying that; and so are we all good, I begin to think, one way or the other, though some show it more openly than others." (She thought of Miles's kindness when he spoke to his wife about the manner in which Jane dressed passing through her mind.) "I wish there was no such thing as temper in the world. So you advise me to say nothing at all to Miles about what we were talking about."

"Nothing at all," replied Jane, earnestly, "as you value the comfort you now enjoy. Infirmities of temper are often much more surely corrected by the person himself, than by the reproofs and remarks of others, particularly those of one so near to him as you are. You see he is endeavouring to conquer a bad habit, and take care how you throw any obstacle in the way of victory,—do not irritate him—do not venture to command him; be grateful, and trust the rest to that good Being who has already done so much for you."

When Martha entered the house, she was startled at seeing the grave and even distressed countenance of her mother. She anxiously inquired into the cause, and found that Mrs. Grey had received a letter from a younger sister living at a village a few miles distant, informing her of the death of her husband, and proposing to her that she should live with her for the future, as she had a comfortable maintenance and no incumbrance.

"And what will you do, mother?" said Martha, turning very pale.

"That does not depend exactly on myself," replied she. "I must talk to your husband."

"And where's the use of that?" replied Martha; "you are better able to judge than either he or any one else is to advise. Oh! mother, you won't leave us. I could no more look at that place, and at that chair, and not see the white cap and the silver hair, and the sweet kind face under it, without being miserable, than I could——" The metaphor failed her, she burst into tears and looked at her mother piteously.

The good woman bade her be composed, begging her at the same time not to tell the children what was in agitation. But Martha, who could see no use in keeping that away from them, which in the nature of things she affirmed they must know, soon told each that, perhaps—she did not know it for certainty—granny was going away.

The effect of this information was exactly what Mrs. Grey wished to avoid. Elder and younger, all assailed her with entreaties to stay where she was, each one making out a plea, that to continue to be good, or to get on with anything properly without her would be impossible. Tom declared that all he had learnt at school, or should learn as an apprentice, had depended, and would depend still on her—he could stand anything but her “be a good boy for my sake!” Mary was sure she should grow a coward again, and be afraid to speak the truth, if grandmother was not near to encourage her; and how could she bear to sleep with any one but her own dear granny? Who could talk to her as she did when they were in bed, and who would pray with her like grandmother when she had done anything wrong?

“Granny,” said little Jim, who had fastened his finger in the string of her apron, “you won’t be so cruel as to go away from us? You shan’t! I won’t let you.”

“Why not, James?” said she; “you do not always wish me to be near you, I know.”

The boy looked archly at her.

“I know that; but who will make me a good boy, and not let me be ‘Pert Jim?’ You must stay till I have got the better of that.”

His grandmother smiled.

“Then I am afraid I shall have to stay a long while,” said she; “but you must mind what others say to you.”

“There’s nobody that I care for but you, granny,” returned he; “and shall I tell you why? You don’t push me, and pull me, and twitch me about when I am naughty (I know though who does); but you put out that finger, and you look so grave while you make me stand still, that I can’t help listening to you. I’ll hold you so fast you can’t go away.”

“And I will help you!” cried the others; “do, granny, do say you won’t leave us; you shan’t stir till you do!”

It was not without some little difficulty that the good woman could extricate herself. At length having assured the children that she was unwilling to go from them as they were to part from her, and that nothing should be done till she had spoken to their father, they released her. Granny never told them, they agreed, what she did not mean, and they were all certain that father would never let her go.

The evening came, supper was ended, and the contents of the letter were discussed.

“Well, Miles,” said Mrs. Grey, attempting to speak very calmly, “what do you say? shall I, or shall I not leave you?”

“Mother,” said he, quickly, “that answer I leave to yourself. Consult your own feelings. If the prospect of more comforts suitable to your years, and a home where there will be less disturbance than in a family of children like ours, seem desirable to you, leave us and without any scruple. I am thankful for all the good you have done among us; but if you like to remain with us, live with us and die with us, then all I have to say is,—that whilst I have a roof over my own head, or a loaf of bread to eat, you are welcome to share both.”

“Now, God bless you for that, John,” sobbed his wife; “say what you will, there’s no one like a husband after all; but, mother, you don’t speak. You have not made up your mind to leave us, surely.”

“No, Martha, no,” replied she, the muscles of her face marking how much she felt, “not till it shall please God to take me away for good.

My heart is here with you and yours, and your husband's kindness leaves me without a doubt how to act. I owed it to him to ask the question; and if he had shown me in any degree that he wished me to go, I would have done so without a single word of regret."

"Why, you could hardly think he would object to your staying with us?" said Martha.

"Most men," returned Mrs. Grey, "like a house to themselves, and fewer still like any interference with their families. Old and young, too, do not always agree well together; and, though we have not found it so, their living together is often not for the peace and comfort of either. It was due to Miles to ask him a question which he only could answer."

"And I have answered it," interrupted he, "and I hope to your satisfaction; so now, granny, as we have entered on a new term to-night, a lease for life, I'll do what you have long asked me,—read prayers with you. When I am at home, and am able, we'll have prayers with the children, at other times we must have them by ourselves."

It is but a cold recommendation of virtue to say it is its own reward. They who would know the blessedness of doing well, must taste and feel from the God and Father of the Christian, the joy and peace that accompany the sense of the divine approbation. This is a happiness, subtle as the light and diffusive as the dew, which penetrates every avenue of the grateful spirit, and gives it a foretaste of that bliss which no understanding can reach. There are few who might not envy the feelings of that lowly woman as the united voices of her children rose with her own for the first time in supplication to the Author of their salvation and hers.

It was not, however, entirely owing to Mrs. Grey's representations that Miles had come to this determination. His religion, like that of many others, had been a matter of words rather than of practice or belief. He had always gone to church, and he had taken care that his children should be baptized, not because he considered it as a necessary duty on his part, but because his parents had done the same by him, and he looked upon it as a mark of respectability. Beyond this he troubled himself little; he led a regular life, and he deemed himself to be, what was called, a Christian.

For a long time before the reformation of Collins, there had been but little intimacy between him and Miles. The intemperance of the former was an effectual barrier to anything like social intercourse between them. Miles valued Jane as much as Martha did, and he was a good neighbour to her at all times. When Collins became a reformed man, a better understanding prevailed, and had led to Miles's kind loan of money to him; and a sincere friendship was now cemented between them. They were much together, a circumstance that proved very beneficial to Miles. Collins had greatly profited by his former miscarriages. He was a man of excellent abilities, and had a sound understanding: he had paid great attention to the instructions of Mr. Nelthorpe, and had taken much delight in the books which that gentleman had recommended and lent to him. He had thus become soundly and practically religious, and without obtruding the subject on his now kind friend and neighbour, he never lost sight of an opportunity of enforcing those just and holy principles which were happily his own guide. Miles now understood clearly what was the wonderful charm that had so effectually wrought the change in him, making the confirmed drunkard and spendthrift a sober, abstemious, and prudent man.

Collins was communicative on all topics but one: the horrible crime he had meditated was a secret confined within the precincts of his own bosom.

Miles himself had no suspicion of such a thing, nor of course of the important link it had formed in his reformation. Enough for him he had seen him a disgraceful, selfish character; he now beheld him a credit to society, and he respected the principles and the power that had made him such. Collins conversed well, and his memory was retentive; he took pleasure in repeating much that he had read or heard from Mr. Nelthorpe, and Miles became both interested and pleased in listening to him. At length he began to perceive that his own conduct, as exhibited in his former impatience and violence, had not only been ridiculous, but reprehensible and sinful, and the reformation which was commenced in weakness was continued and finally perfected by the highest sense of duty.

"Collins," said he one evening to him, "you say I am the best friend you have. You are the best I have ever known. I helped you with a little money, you have done much more for me. My child (he had repeated what had passed with Jim) taught me to despise myself by the contemptible picture he set before my eyes. You have taught me how to gain a feeling of self-respect in thoroughly overcoming an evil habit through the force of religious principle. I could do little to correct the infirmities of temper, or of anything more serious in my children on no better ground than the fear of appearing ridiculous; but I may do everything for them on a higher and better ground, as you have taught me to see. In doing this, I shall have no fear but that they will come to the conclusion that their father has come to before them,—that the remembrance of a sinful practice or evil habit conquered by a sense of the duty we owe to God is no disgrace to a family, no reflection on the memory of a parent, but a source of gratitude on the one hand, and of honourable congratulation on the other."

The two families are at this time living prosperously and happily. Richard Collins may be said to have entirely outgrown the fits that formerly afflicted him. His merits are fully appreciated by his father, and the tenderest affection now subsists between the two; but his mother, oh! who may tell the love that bound them to each other! he had been her solace in the dark hour of trouble, he was now her crowning joy in the day of prosperity. He bids fair, too, to fulfil his avowed determination of being a first-rate hand, for his work can already be distinguished from every other by its excellence. Collins has lately been elected master of a small free-school in the town; the salary of which, though not very large, proves a most acceptable addition to his income. He has returned the loan he so generously received from Miles, and is entirely out of debt, with a fair prospect of a respectable balance in his favour at the end of the year.

Miles, too, is doing remarkably well. His business was always good, and it is now made a source of comfort and pleasure to all around him. He has found out that irritability, so far from increasing the activity of his servants, retards it; that in fact the steady, quiet orders he at present gives insures at once respect towards himself, and prompt despatch in others. Martha is a happy wife and mother. She professes to have discarded the words "It's of no use," seeing, as she says, that the most wonderful changes for the better can be brought about some way or other, when people go the proper way to work; but she has been so long accustomed to the phrase, that the only real difference is this—she employs it to express a better sentiment than formerly, declaring that nothing can be more foolish than to say it is of no use to try to amend what is going on wrong, or to throw a damp in like way upon any endeavour to do what is right.

ASSYRIA.—COSTUME.

Loose robes, like those of the Assyrians, require to be kept about the person by girdles, and we suppose were always so fastened among them; though frequently the cincture does not appear, from an outer robe being thrown over all. Its form was various, but the most common was a very broad plain belt, which appears to have passed more than once round the waist, the last circumvolution becoming much more narrow, and each end terminating in a clasp, of which so great is the variety that scarcely two examples can be found alike.



GIRDLES.

At Khorsabad the zone was sometimes made of open network, as if knit; and sometimes a narrow elastic web of similar texture was attached to the clasp.

The colossal lion-cherubs that guarded the portals at Nimroud were girded around the loins with a cincture, resembling a narrow ribbon, tied in a knot, the ends furnished with tassels.

In one of the Nimroud battle-scenes, warriors are represented as wearing, in addition to the ordinary belt passing over the right shoulder and supporting the sword, a sort of belt of considerable width, embroidered and edged with fur, passing from the left shoulder to the right waist. They wear short coats, apparently composed of broad parallel plates or folds, embellished with rosettes; perhaps a lorica of leather or linen.

The royal headdress imparted by its height and form dignity to the wearer. It was a sort of mitre or cap, in shape resembling a truncated



MITRES (Nimroud).

cone, with a little point or peak, sometimes of two gradations, rising from the centre of the crown. A broad band, or upturned fold of the material, surrounded the base rising to a point above the forehead, and furnished at its hinder part with two long ribbons, which hung down the back. In some instances this band was plain, like the mitre itself, but more com-

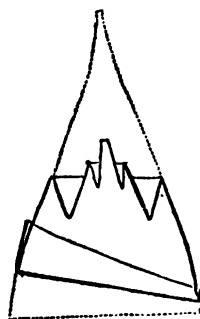
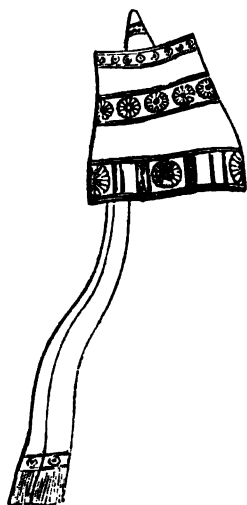
monly it was richly ornamented; divided perpendicularly into compartments, and decorated with one or more beautiful rosettes. The edge of the crown and the peak were sometimes encircled with ornamental bands. From the hinder part depended two long ribbons of coloured material, reaching as low as the waist, each terminated by an ornamental border and a wide fringe.

In the era of the Lower Dynasty the mitre was worn higher, and of a more graceful outline: it was furnished with three bands, more highly decorated with rosettes of large size, and other ornaments.

This conical head-dress appears to have been peculiar to the king; it is never seen on any personage but himself, and he is never depicted without it.

Of what material the Assyrian mitre was made is uncertain. We incline to think that it was of felt; and that in essential structure it did not differ from the ordinary *pileus*, or pointed cap of the common people. We suppose that it was more lengthened in its form, and that what appears a truncate crown was really an infolding of the surface, which again projected to form the peak. The following diagram will illustrate our notion; the dotted lines in which represent the supposed original shape, and the full lines a sectional outline of the mitre as completed.

In the bas-reliefs at Khorsabad, the ground of the mitre is white, and the bands are red, with the rosettes and some of the interspaces white. But on a fragment of a painted tile from the same palace, the mitre itself



SUPPOSED STRUCTURE OF
THE MITRE.

MITRE (*Khorsabad*).

is red and the bands white, with the rosettes and other ornaments yellow. If any inference can be legitimately deduced from these premises, we may suppose the mitre and its bands to have been of these two colours, arranged indifferently; and the ornaments to have been of silver or of gold, or perhaps of precious stones set in these metals.

The mitre of the High Priest of Israel was of fine linen (Exod. xxviii. 39),

but the Scripture gives us no information on its form. Josephus sets himself most elaborately to supply the deficiency, but his account is unintelligible. We may gather that it was conical in shape, as he distinguishes the mitres of the common priests by saying that they were not conical;—that it was encircled with swaths of blue embroidered, and that it was covered by one piece of fine linen to hide the seams. The frontal part was covered by a plate of gold, which was tied around the mitre with a ribbon of blue.

High officers of the state—the “crowned” captains, whom the prophet Nahum (iii. 15) graphically compares to locusts—were adorned with diadems, closely resembling the lower band of the royal mitre, separated from the cap itself. Such was that of the vizier, which was broader in front than behind, was adorned with rosettes and compartments, and termi-



DIADEMS.

nated in two ribbons with embroidered and fringed ends, that hung down his back. This diadem and its fillets were sometimes red, with white rosettes. The head of a winged priest found at Nimroud was encircled by a narrow white ribbon, twisted, carrying large rosettes; so coloured as to suggest that they were composed of rubies set in silver. Another diadem of a priest from Khorsabad was adorned with large rosettes, alternating with oblong blue gems (?); the settings of which as well as the rosettes, being coloured red, were probably of gold. This diadem ended in a large projecting tassel behind.

Very commonly the head was encircled with a simple fillet or hoop, probably of gold, without any adornment; but often the head was entirely bare, even of high officers, and in the open hair. Chariot warriors are seen at Nimroud and Kouyunjik, and hunters at Khorsabad, quite bare-headed; the king never. It is observable that while the diadem of the vizier was bound in front, and narrow behind, that of the chief eunuch was broad behind, and very narrow over the forehead. The latter was plain, except that a round button, probably a jewel, was set in its front.

A small head in white marble, evidently that of a woman, found in the south-east ruin of Nimroud, and now in the British Museum, has a head-dress apparently formed of an elegant veil, tied round the forehead, and thrown gracefully off on the left side behind the ear.

EDUCATION.

How many there are who mistake the meaning of education! who think that by attempting to instruct the youthful mind in all things, they answer their intention of properly educating it! Now, the aim of education, as its original meaning expresses, is to *draw out*; which is to strengthen the mental faculties, and thus to put into active exercise the latent energies of the mind. Experience hath taught us that this is best done in the first instance by employing the mind on some one or two subjects, and having then fitted it to make use of its judicial powers, to let it freely engage itself in such a course of study or employment as its natural bent or the peculiar

* Antiq. III. vii. 3, 6.

situation of the individual may point out. The late Bishop of Llandaff, the excellent Dr. Coplestone, has, with his accustomed good sense and admirable diction, forcibly depicted the usefulness of a classical education to a young man; and we cannot illustrate our own views better than by quoting a passage from his writings. Premising that it does not touch upon the subject of the education of the labouring, but upon that of the higher and middle classes; and his remarks do not seem to be out of place, when there appears to be a desire so to diversify the studies in the universities as to make us fear that the present high standard of classical literature and of mathematical science will be injuriously lowered. On the subject of university education, the bishop thus writes:—"Never, while the world lasts, will it be wholly disabused of that specious error, that the more there is crammed into a young man's mind, whether it stays there or not, whether it is digested, or not, still the wiser he is. And writings such as those which I have been examining—smart, witty, and confident (alluding to the 'Edinburgh Review,' No. XXIX., p. 50)—tend to confirm this diseased habit of thinking, and to spread the contagion.

"A half-educated father hears that lectures are read in Chemistry, Botany, Mineralogy, &c., &c., at one place, and his son is learning nothing of this sort at school. Incapable of judging how mental powers are improved by continual exercise, and how the moral character is in a great measure formed by the study of good authors, he fancies that when the grammar of a language is learnt, all further attention to that language is lost time—that there is nothing new gained, because there is no new name.

"If the boy is captivated by the novelty and variety of the studies which are presented to him, he seldom returns with any relish to philological pursuits. He may become a skilful agriculturist, an improver of manufactures, a useful inspector of roads, mines, and canals; but all that distinguishing grace which a liberal education imparts, he foregoes for ever. It cannot be acquired in a later period of life, if the morning of his days have been occupied with other cares, and the intellectual habits already settled in different forms and postures.

"If, as too often happens, these matters are received into the ears, but take no possession of the mind, there is not only a moral blank, but an intellectual barrenness, a poverty of fancy and invention, a dearth of historical and poetical illustration, a want of all those ideas which decorate and enliven truth; which enable us to live over again the times that are past, to combine the produce of widely-distant ages, and to multiply into one another the component parts of each. The experiment is a cruel one. I have seen it tried: and have witnessed the melancholy and irreparable result.

"On the contrary, if this liberal instruction be first provided, and if the intellect be duly prepared by correct logic, or pure mathematical science, there is no analysis which the business of life may afterwards call upon him to investigate beyond the reach of a moderate understanding. The habit of discrimination, the power of stating distinctly, and of arguing with perspicuity, are of much greater importance than the hasty acquisition of intellectual knowledge. Not that I would be understood to exclude the study of those matters from a university. They are taught and esteemed, and encouraged here; but we do not deny that they are subordinate, and not the leading business of education; and (what I think should never be forgotten) they are much more easily attained by a well-disciplined mind after he enters into life than the other studies upon which we lay greater stress."

OUR NATIVE SONGSTERS.



THE GARDEN-WARBLER.

ANOTHER species of this genus, the Garden-Warbler* (*Curruca hortensis*), is the Fauvette of Buffon and other French writers, and is commonly called, in our country, the olive-fauvet, or garden-fauvet, and sometimes the greater petty-chaps. Buffon says that, of all the inhabitants of the woods of his native land, these warblers are the most numerous and agreeable. Lively and nimble, always in motion, they seem occupied only with play and pleasure; and, as he observes, it is very amusing to see them pursue each other in sport, for "their attacks are gentle, and their combats end with a song." A very sweet song it is, and little inferior to that of the blackcap, being rich and flute-like in its tones. It is often heard from the tree of the shrubbery, or from that of the large garden, where, amid the foliage, the bird may sing unseen, or gamble about among the trees chasing its companions or the winged insect. It is very elegant and graceful in its movements, but will rarely give us an opportunity of watching it, except at a distance, though it is abundant, not only in gardens and shrubberies, but in copses and hedgerows: like the blackcap, it is migratory, and comes and departs at about the same season as that bird. William Howitt has a word in favour of it, and other of our little birds:—

"Come ye, come ye, to the green green wood,
 Loudly the blackbird is singing;
 The squirrel is feasting on blossom and beech,
 And the curled fern is springing:
 Here you may sleep, in the wood so deep,
 Where the moon is so warm and so weary;
 And sweetly awake, when the sun, through the brake,
 Bids the fauvette and whitethroat sing cheery."

Shy and wary as it is in its wild state, the garden-warbler soon becomes reconciled to confinement, and is described by Mr. Sweet as one of the most delightful and pleasing birds that can be imagined. The long-continued song, "wild, rapid, and irregular in time and tone," is sung cheerfully

* The Garden Warbler is nearly six inches in length. Upper parts hair-brown; under parts dull whitish; beak and feet purplish-brown.

when the bird is placed in a large cage with other birds : it flies and plays about all day long, but, fortunately for it, it is rarely chosen for a cage-bird in England. It is the true beccafico of the Italians, so celebrated as a luxurious food. Mr. Broderip quotes an enthusiastic eulogy of this species from "the Professor, who gave to the world the *Physiologie du Gout*," which may be thus translated:—"Amongst the smaller birds, the beccafico is unquestionably the first. He fattens at least as well as the redbreast or the ortolan ; and nature has bestowed on him, besides, a slight bitterness and an unrivalled perfume, so exquisite that they engage, fill, and beautify all the gustative powers. If the beccafico were of the size of a pheasant, he would certainly be purchased at the price of an acre of land. It is greatly to be lamented that this privileged bird is so seldom seen at Paris. Some few, indeed, arrive there, but they are wanting in that fatness which constitutes their whole merit ; and one may say, that they hardly resemble at all those which are to be seen in the eastern or southern departments of France."

What wonder, if, after such praises of our little bird, the epicure longs to add to his delights a dish of the garden-warbler ! Unfortunately, an excessive attention to the palate soon destroys all the finer tastes, and the charms of music must yield to those of the luxuries of the table.

Our graceful bird delights in closely-embowered and shady places, and here it sings its song, and builds its nest. This is usually put in some thick bush, at no great height from the ground. Mr. Yarrell found one in the midst of a row of garden-peas and the sticks which supported them ; and saw another lying among some tares in the open field. The nest is made of grasses, dried stalks of plants, and moss, and lined with a few hairs and the fibres of small roots ; the edges being wound about with spiders' webs. The eggs are greenish-white, marked all over with pale ash-grey, and olive-brown spots and streaks.

The garden-warbler will eat our currants and cherries in their season, and take a meal from the berries on the elder-bough. Its chief food, however, consists of insects, which it flies after and catches with much dexterity. As this bird leaves us in September, it hardly waits to experience the words of the poet—

"The small birds how they fare,
When mother Autumn fills their beaks with corn,
Filch'd from the careless Amalthea's horn ;
And how the wood-berries and worms provide
Without their pains, when earth has nought beside
To answer their small wants."

But far more common than even the garden-warbler is the Whitethroat* (*Curruca cinerea*), another bird, called also Fauvette, the Fauvette-grise, or Grisette of Buffon, which is, too, a migratory species, arriving in Britain at the season of love and hope, of budding trees and flowery meadows. It is here by the end of April, and every one used to the country has marked its white throat and grey chest, and black-tipped head. Notwithstanding that our rural retreats receive at this season a great accession of songsters, the hurried but sweet song of the whitethroat is no small addition to the concert, and none the less valuable that it is heard so often. The bird seems quite a musical enthusiast, uttering its notes apparently under the

* The Whitethroat is five inches and a half in length. Upper parts reddish-brown, greyish on the head and neck ; under-parts whitish, tinged from the breast downward with rose-colour ; beak and feet brown.

influence of great excitement, the throat much distended and throbbing all the while, and the feathers on the crown of its head raised up so as to form a crested tuft, while the vibrating wings and tail mark the eagerness of the singer. Sometimes it flies off, wheeling round and round with a quivering motion, and singing sweetly at the same time, till having performed several circles in the air, it comes back to the spot whence it started, and finishes the song. The heat of summer now comes on, and most birds are silent for



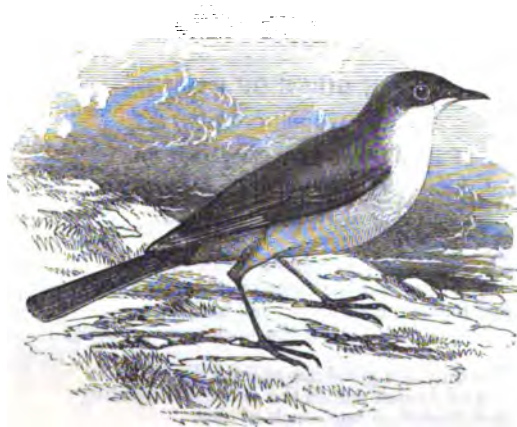
THE WHITETHROAT.

awhile, till cooler hours arrive ; but not so with our hearty singer, for its voice may be heard alone amid the general hush, and when a drowsiness seems to have come over all the living things around, while it is also continued long after the twilight of evening. Mr. Sweet, who has contributed so much to our knowledge of the habits and manners of the small birds, was very fond of the whitethroat, and says, that it is one of the most delightful and pleasing birds that can be imagined, if kept in a large cage with others, when its antics and friskings are most amusing. He ascertained that there exists in different individuals a great variety as to the quality of the song, not only when in confinement, but also when wild in the woods ; and he considers that the singing of a good whitethroat is little inferior to that of a blackcap. This writer had one in his possession for eleven years, and says that it was, at the time of his writing, in as good health, and sang as well as ever, and that no song need be louder, sweeter, or more varied. "It is," he says, "of the same temper as the nightingale—never suffering itself to be outrivalled. It will indeed sing for hours together against a nightingale, now in the beginning of January, and will not allow itself to be outdone ; when the nightingale raises its voice, it does the same, and tries its utmost to get above it ; sometimes in the midst of its song it will run up to the nightingale and stretch out its neck, as if in defiance, and whistle as loud as it can, staring it in the face ; if the nightingale attempts to peck it away, it is in an instant flying round the aviary, and singing all the time."

Our whitethroat has so many familiar country names, as to suggest the idea that the bird is a general favourite. It is called Whey-beard, Wheetie-why, Churr, Muft, Beadie, Whattie, Charlie, Muftie, Peggy

Whitethroat, Whautie, and Muggy Cut-throat. One of its most common provincial names, Nettle-creeper, arises from its habit of frequenting hedge-banks, the sides of woods, or grassy lanes, where the brambles trail over the ground, and the bracken and the nettles gather in abundance. It is among large coarse herbage of this kind that its nest is hidden; and a low bush, or a tangled thicket of grass and nettles, is a favourite spot; the nest rarely being placed more than a foot or two above the ground. The outer part is formed almost entirely of dried grass stems, and it is lined with flowering grass stems of a finer description. The eggs are four or five in number, and are white, spotted and speckled with ash-brown.

The whitethroat clears our rose-bushes, honeysuckles, and other plants, of many of the aphides which gather on them; and is of much use too in destroying caterpillars, of which it is particularly fond. It is partial also to flies, though less clever in catching them than are some birds. But it does not confine itself to insect diet, and it must be acknowledged that a little party of these fauvettes, composed of the parent birds and their young, will make sad havoc among the currants, cherries, and raspberries, if their nest happens to be placed near a garden or orchard where these fruits are growing. Elderberries and blackberries are a favourite food; but the latter have hardly ripened before the birds are away to more congenial climes, and better stores of provision. The greater number depart quite early in September, but a few stragglers may be seen late in that month.



THE LESSER WHITETHROAT.

The Lesser Whitethroat* (*Curruca sylvia*) visits this island at the same period as its allied species, but is by no means a common bird. It is called also Babbling Warbler, and its French and Latin names both allude, too, to its song. In Germany it is termed *Das Müllerchen*, or little miller, because some clacking notes may be heard in its strain. These notes are very distinct, and are therefore often thought to be the only song of the

* The Lesser Whitethroat is five inches and a quarter in length. Upper parts blackish-brown; sides and flanks grey; under parts white tinged with red on the belly; the outer feather of the tail is white; beak black; feet lead-grey.

bird, especially as it is, from its habit of frequenting copses and thick hedgerows, and from being somewhat uncommon, at least in Britain, not very often heard. Bechstein, however, who is an excellent authority in these matters, says that the song, though weak, is so soft, so melodious, and so varied, that it surpasses other warblers. He adds, that while warbling in an undertone, in continuation, it is perpetually hopping about the bushes; but when going to utter its tones of clap, clap, clap, it stops, and employs the whole strength of the larynx to pronounce this syllable. When caged and by itself in a room, it rarely utters the clacking tones, and at that time its voice is peculiarly sweet and agreeable. Both there and in its wild bough its warbling is almost incessant, so as to deserve its name of babbler.

This bird usually builds its nest among brambles and low underwood. This is generally formed of strong coarse grasses, lined inside with some finer kinds, with fibrous roots and horsehair. The eggs are smaller than those of the common whitethroat; sparingly spotted and speckled, chiefly at the larger end, with light-brown and grey. They are about five in number.

This bird is very generally diffused over the temperate and warmer parts of Europe and Asia. Its manners and habits are similar to those of the larger species, and, like it, its food consists of insects, varied with berries. It frequents thick copses and hedgerows, and sometimes may be heard or seen on the top of a tall elm or other tree.

THE DIRGE OF RACHEL.

(GENESIS xxxv. 19.)

AND Rachel lies in Ephrath's land,
Beneath her lonely oak of weeping;
With mouldering heart and withering hand
The sleep of death for ever sleeping.

The Spring comes smiling down the vale,
The lilies and the roses bringing;
But Rachel never more shall hail
The flowers that in the world are springing.

The Summer gives his radiant day,
And Jewish dames the dance are treading;
But Rachel on her couch of clay
Sleeps all unheeded and unheeding.

The Autumn's ripening sunbeam shines,
And reapers to the field are calling;
But Rachel's voice no longer joins
The choral song at twilight's falling.

The Winter sends his drenching shower,
And sweeps his howling blast around her;
But earthly storms possess no power
To break the slumber that hath bound her.

W. KNOX.

THE
HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION.

PUBLISHED EVERY WEDNESDAY,

BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.

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AND SOLD BY ALL BOOKSELLERS.

[PRICE 1d.

THE DOGE OF VENICE.



“ THERE is a glorious city in the sea ;
The sea is in the broad, the narrow streets,
Ebbing and flowing ; and the salt sea-weed
Clings to the marble of her palaces.
No track of men, no footsteps to and fro,
Lead to her gates. The path lies o'er the sea,
Invisible ; and from the land we went,
As to a floating city ;—steering in,
And gliding up her streets as in a dream,
So smoothly, silently.”

SUCH is Venice the Beautiful ; for thirteen hundred years Queen of the
Adriatic ! Seated on the waters, she appears at a distance like a glorious
VOL. II. 2 c

floating city—her domes, her spires, her cupolas, and towers, glittering in the sunbeams. A dream-like, silent city, unlike any other in the world! The rumbling of a wheel, or the tramp of a horse, are sounds never heard in her streets, if such may be called her noiseless, narrow paved passages. No; her streets are of water: instead of calling for your carriage, you must call for your gondola, in which you silently glide from one part of the city to another. Splendid marble stairs, with marble balustrades, lead up at once from the water to the hall door. No less than four hundred and fifty bridges connect the islands on which Venice is built; the chief of which is the celebrated bridge of the Rialto, thrown over the Grand Canal. The sides of this canal are lined with marble palaces of large size.

There is much to admire in this fairy-like and even now splendid city. The grand square of St. Mark, so gorgeous and magnificent, with its ducal palace, long the residence of the Doges of Venice—its cathedral, where you see nothing, tread on nothing, but what is precious—the floor all agate and jasper, the roof mosaic, the aisle hung with the banners of subject cities—its campanile, or belfry, with its immense bell, only rung in former times by order of the Doge—the Bridge of Sighs, connecting the ducal palace with the state prisons—the magnificent granite columns, on one of which stood the celebrated “winged lion of St. Mark,” cherished by the Venetians as the symbol of their far-extended power. These, and much more, attract the eye of the traveller, and call forth his admiration. There, too, is the Giant’s Staircase, leading into the palace, where may be seen the two lions’ mouths, which gaped day and night to receive the anonymous informations that insured the safe gratification of private revenge. Woe be to him who was accused to the State by a paper dropped into the lion’s mouth! He generally disappeared a short time after, and was never heard of again. The mysterious Council of Ten—the dreadful dungeons—the secret and silent executioners—alone knew his fate!

It was in her high and palmy days, when the magnificence and splendour she displayed were unequalled in Italy, that the inhabitants of the sea-girt city prepared one year to celebrate the Feast of the Ascension. Every citizen had donned his best attire, and wore his gayest smiles. The gondolas were decked out; and all made ready to witness the annual ceremony of the day—the marriage of the Doge with the Adriatic.

A splendid vessel, called the “Bucentaur,” was in waiting. It was gilded from prow to stern, covered with an awning of rich purple silk, fitted up with crimson velvet and gold, and adorned with statuary. At the appointed hour, the Doge, Francesco Foscari, the senators, the nobles, and persons of quality, with the foreign ambassadors, all dressed in their state robes, entered the vessel, and, set in motion by powers concealed in the lower deck, the “Bucentaur” sailed out into the open sea, followed by innumerable gondolas. The gondola is a light boat—a kind of canoe—impelled by two gondoliers, who accompany the strokes of their paddles by singing a melodious ballad. It is painted black, in consequence of a law having been passed to that effect, to restrain the extravagance of the nobles, —and prescribing likewise its size and form.

When all were in the open sea, the Doge, with much ceremony, threw a gold ring into the blue waters of the Adriatic, saying in a loud voice, “We marry thee, O Sea, in token of that true and perpetual dominion which the Republic has over thee.”

The “Bucentaur, with its noble company, then returned to Venice.

“This is an imposing sight indeed!” exclaimed Giovanni Micheli to his

father, a Venetian noble, as in their gondola they witnessed the ceremony ; "our beautiful city may well be termed Queen of the Waters ; but I know not exactly the origin of the custom ; can you tell me, father ?"

"I can, my son. About three hundred years since, the Republic assisted Pope Alexander III. against his enemy Frederick Barbarossa, and destroyed his fleet. His holiness, who had taken refuge in Venice, was very grateful for this help, and when the Doge Ziani returned in triumph to the city, he went to meet him, attended by a train of nobles, and a vast concourse of people who rent the air with joyful acclamations. Then the pope, embracing the doge, gave him a golden ring, saying, 'Take this ring, and present it to the sea, in token of your dominion over it. Enjoin your successors to perform annually the same ceremony, that succeeding ages may learn it was your valour which acquired this great prerogative, and subjugated the ocean, even as a wife is subject to her husband.' Such was the origin of the doge's marriage with the Adriatic, Giovanni, and long may the ceremony be continued !"

"Father," said the boy, with sparkling eyes, as he gazed over the waters, "I should like to be a doge ! how proud and happy should I be this day !"

"Not so happy as you are, Giovanni. Proud the Doge Francesco Foscari well may be, placed as he is at the head of our flourishing and powerful Republic ; but happy he is not."

"Not happy !" exclaimed Giovanni in surprise, "how can that be ? he seems to have everything he could wish for : to be in the exalted station he is, one would think was alone sufficient to secure his happiness."

"Alas ! that is the very cause of his constant sorrow," replied Micheli.

"As doge, he has been obliged to pronounce sentence of banishment against his only, his loved son."

"Oh how sad !"

"Yes ; most earnestly desirous was Foscari of being elected doge, and much opposition he encountered before he attained the dignity. He at length gained the height of his ambition, but only to bring down upon himself unspeakable misery."

"But what offence had his son committed ?" asked the boy. "Surely one who has been doge for so many years, and is so beloved by the people, might have pardoned, if he willed it ?"

"My son," said the noble, in a low voice, after being satisfied that the gondoliers were out of hearing, "these are matters rarely spoken of ; but it is right you should know what has happened, though at the same time I warn you never to mention the subject. Any remark on the proceedings of the Council of Ten might cost your father his life. Be silent therefore. You must know, then, that anxious as the Doge Foscari was to attain his present high office, he soon discovered that the throne he coveted was anything but a seat of repose. Accordingly, after some years, wearied with the factions which ascribed all disasters to the prince, he tendered his resignation to the senate, and was refused. At the end of nine years more, he again expressed his wish to retire—and was again refused. On this occasion, the council obliged him to take an oath that he would retain his burdensome dignity for life."

"But his son—what of him ?" inquired Giovanni eagerly.

"He had four sons, but three of them died, and to Jacopo, the survivor, he now looked for the continuation of his name, and the support of his declining age ; and tenderly attached were they one to the other. The young Jacopo married a daughter of the illustrious house of Contarini ; the

nuptials were celebrated with great joy, and the doge began to look forward to some degree of happiness in his old age. The birth of a grandson increased his hopes. Alas! they were fatally disappointed. About five years since, Jacopo Foscari was denounced to the Council of Ten as having received presents from foreign potentates. This offence is considered by our law as one of the most heinous which a noble can commit. He was seized and put to the torture, his wretched father being obliged to preside. And from the lips of that father, who loved him so tenderly—who believed him innocent—he received the sentence which banished him for life to Napoli di Romania."

"But he was not guilty, sir, was he?"

"It is not easy to establish innocence before the Council of Ten," said Micheli, sinking his voice to a whisper. "The utmost the doge could do, notwithstanding his services to the Republic, was to obtain permission for his son to reside at Treviso, and that his attached wife should be allowed to accompany him in his exile."

"What a trial for the prince!" exclaimed Giovanni. "How does he bear it, father?"

"Wonderfully. He lets no one perceive, in his calm, dignified demeanour, the heart-consuming grief that is within. The feelings of the father appear to be lost in the stern justice of the doge; but it is not so. Every hour he mourns his beloved Jacopo!"

"But could he not procure a remission of the sentence? You say he has served Venice well?"

"Venice owes him much, my son. By his courage, prudence, and sagacity, he has increased her glory not less than her dominion. He has added four rich provinces to the republic, and rendered brilliant services to his country. During the many years in which he has been at the head of the state, he has by his conduct gained the respect of the senate, and the love of the people. But all this availed nothing with the Ten;—all this could not save his son!"

"Poor Jacopo! I pity him much, but I pity his father still more," said Giovanni.

"They are to be pitied indeed!" replied Micheli. "But Giovanni, my dear boy, I charge you never to mention what I have told you. It might bring you and me into trouble. Make no remarks, whatever you hear; remember the lion's mouth!"

These last words were uttered in a low impressive whisper, and the young Venetian boy, silently pressing his father's hand, signified that he understood their import and would obey.

"See!" said Micheli, after a pause of some minutes in the conversation, during which they glided in their graceful gondola over the placid waters, "How glorious looks the Bride of the Adriatic to-day! She is decked in unusual splendour for the occasion. See, Giovanni, in what a flood of golden sunshine she reposes! Look at her winged lion bidding defiance to her enemies! See the glorious standard of St. Mark unfurled to the breeze! see the brazen steeds glittering and glowing in the sun! Beautiful Venice! well may thy sons love thee and the nations fear thee!"

Giovanni gazed in delight and admiration. Forgetting for a time the troubles of the doge, he thought only of the fair city before him; and pride and joy filled his heart that he too was a Venetian.

That city was then in the height of her prosperity. The exhaustless treasures of the East were poured into her lap;—her vessels ruled the

seas ;—her merchants were princes ;—she was “a queen with an unequalled dower.”

Those were the days when

“ Many a subject land
Look'd to the winged Lion's marble piles,
Where Venice sat in state, throned on her hundred isles.”

But within those marble halls was many an aching heart !

In the winter of this year an assassination took place in the streets of Venice. Hermalao Donato, a chief of the Ten, was murdered on his return from a sitting of that council, at his own door, by unknown hands. Amazed at the indignity offered to them, as well as at the magnitude of the offence, the council eagerly caught at the slightest clue which suspicion could afford as to the perpetrator of the crime. With stern countenances and bent brows they met in that hall where sentence had been passed on so many victims. At the head of the council-board sat the Doge Foscari :—

“ Upon his calm and noble face
Deep thoughts had left their living trace,—
Thoughts, such as press, with giant power,
A common life into an hour ;
Each line of lofty meaning there
Was graven by the hand of Care,
And the flash of that triumphant eye,
That arching lip's stern majesty,
Told of full many a foe withstood,—
Without, disdained—within, subdued !”

“ Signors,” said one of the Ten, when all had assembled, “ I am happy in being able to give you, as I believe, some clue as to the author of this most barbarous murder. It chanced this morning that I was in my boat off Mestre, when, hailing one from the city, and inquiring what news was stirring, we were informed of the assassination of the noble Donato. Immediately returning to Venice, I found to my astonishment that few were aware of the crime which had been committed. This aroused my suspicions as to my informant, and, on inquiry, I learned that he had been seen in the city on the evening of the murder. Is it not strange, signors, that this person should have been acquainted with that which was not generally known for some hours after ?”

“ It savours strongly of guilt,” they replied.

“ Yet,” said the doge, “ his frank disclosure would seem to disprove his participation in the crime. The author of such a deed is not likely thus unseasonably and prematurely to disclose its committal—is he, think you, signors ?”

“ He doubtless put on the show of frankness to ward off suspicion,” observed one of the Ten.

“ He should be arrested at once.”

To this all agreed.

“ Who is the man ?” inquired the doge, as paper, pen and ink were laid before him.

“ His name is Pietro Raneiri, a servant of the exiled Jacopo Foscari,” was the reply.

The prince spoke not—started not. But those near him might have observed a scarcely perceptible quivering of the lip, when that loved name fell thus unexpectedly upon his ear.

“ Signors, there is the order for the arrest,” he said in calm tones ; “ I

believe our business is concluded for the day ;" and with a dignified step he left the council hall.

"He does not appear to feel much for his son," said one, "and yet he must be aware he is suspected."

"He *shall* feel then, ere long," was the reply.

"How, Loredano? what mean you?"

"How! can there be any doubt who is the author of this murder? Who could be more likely to arm the hand of an assassin against a chief of the Ten than one whom the Ten have visited with punishment? If the servant will not confess, the master must." He turned away muttering, "I have vowed to be revenged on him, and I will."

Ranieri was arrested; but though tortured in the most cruel manner that malice could devise, the unfortunate man denied all knowledge of the murder, and not a word did he utter that could justify the suspicions entertained against his master. Jacopo Foscari was, nevertheless, recalled from banishment, and, in the presence of his aged father, had to undergo similar tortures to those inflicted on his servant. And though they failed to wring from him the avowal of having even the slightest knowledge of the crime of which he was accused, the unfortunate young noble was convicted without proof, and sentenced to be banished for life to the remote island of Candia.

Again had the unhappy doge to pronounce the words which tore him from his last—his only son—his innocent Jacopo!

Yes,—Jacopo was innocent. A short time afterwards, a Venetian noble confessed on his death-bed that he had himself murdered Donato, from motives of private revenge. Yet this distinct proof of the young Foscari's innocence wrought no change in his unjust and cruel sentence!

"I cannot believe the young noble guilty of such a deed," said a citizen of Venice one evening to a friend, as they stood together on the Rialto, a few days after the second banishment of Jacopo. "It was an act unworthy one of the Foscari."

"Were he not guilty the Ten would not have condemned him," replied his friend.

"Nay, Filippo, the torture he endured must have wrung from him a confession, if so."

"He may have great fortitude, Giuseppe. I was told he uttered not a word or a groan. His father is not easily moved, you know."

"Ah, the doge! what must he not have suffered in beholding his son's anguish! What a trial for a kind and loving father to undergo! He feels, Filippo, he feels deeply, though he lets it not appear. To believe him innocent, as he must have done, and yet to pronounce the fatal sentence which sent the noble youth from his home for ever! My heart bleeds for him."

"So does mine. But, Giuseppe, it is as well not to talk of these matters. It is for the council to judge of the guilt of the young Foscari. They desire not our opinion on their proceedings, and it is safer not to give it. Be advised."

"Well," replied Giuseppe, as he turned away, "I only wish the Ten would act with a little more justice and a great deal more mercy, and then I should be satisfied."

The young man said this more to himself than to his companion, but the words were heard where he least intended they should be. One who was not friendly towards him, passing by, marked the incautious speech. That

night, a muffled figure, hurrying up the Giant's Staircase, dropped a paper into the lion's mouth. Ere two days had passed Giuseppe had disappeared from Venice. His friends never learnt his fate!

It was no wonder that Micheli warned his son to be careful of what he said in Venice!

"A strange mysterious power was there,
A power that never slumbered, never pardon'd,
All eye, all ear, nowhere and everywhere;
Entering the closet and the sanctuary,
Most present when least thought of—nothing dropp'd
In secret, when the heart was on the lips,
Nothing in feverish sleep, but instantly
Observed and judged."

It was a wicked and fearful system that Venetian Inquisition! With its ever-watchful spies, its tortures, its secret dungeons, its mysterious, silent executions, it exercised a despotic sway over the lives and fortunes of the Venetians, and filled their minds with an unspeakable dread. The secrecy and despatch of this tribunal excited the wonder of every citizen of the republic, and taught them to veil their sentiments with the utmost caution. Alas! that poor Giuseppe had not concealed his!

MISSIONARY LABOURS AMONG THE EMIGRANTS PRIOR TO THEIR DEPARTURE.

LETTER FROM AN IRISHMAN AT THE DIGGINGS.

THE following are extracts from a communication made by the Rev. J. W. Welsh to one of the Secretaries of the Society for Promoting Christian Knowledge: we feel certain that many of our readers will be interested in the details contained in the extracts, and we hope that some will aid the zealous missionary in his truly Christian labours. The Irishman's letter will no doubt, by its orthography and quaintness, occasion a smile, but with it will spring the conviction that the honest fellow has his heart in the right place. We hope that he may many years live to gladden the eyes of his mother, and before he be called upon to "bury her decently."

"DEAR SIR,

Birkenhead, Feb. 14, 1853.

"At the close of the November quarter there were two important matters pending, in connexion with my missionary labours on the Mersey, which were then in an unsettled state.

"The two matters to which I have alluded were, the establishment in Liverpool of female emigrant class-rooms, and the procuring a licence to perform Divine service and administer the sacraments in the Dépôt Chapel at Birkenhead.

"For a long time I had felt deeply the want of some rooms at the north end of the town, where the females might be assembled for prayer, religious instruction, and information on different subjects connected with emigration. Situated as they are in the lodging-houses, it would be impossible to effect these objects there on anything like a large scale. It was obvious, therefore, that some central establishment was needed, where, removed from the turmoil and confusion of the streets, they might be collected together at stated hours, from day to day. Those only who know something of the fearful temptations to which innocent country girls are exposed in Liverpool, can fully appreciate the value of an establishment of this kind.

"Finding, however, the rates of house-rent so enormously high in that quarter of the town, I was beginning to despair of procuring the means of obtaining the object I had in view. But at last, taking courage, I addressed a letter on the subject to the Liverpool Dock Committee, which was most kindly received by that body; and, after several further communications, the Committee at length very generously granted me the free use of four spacious rooms, adjoining each other, in the very centre of the emigrant quarter, and situated, moreover, within the walls of the Prince's Dock. The Ladies' Visiting Committee at once fitted up these rooms with forms, tables, shelves, &c., and placed a resident matron in one of them, to be always on the spot, and to assist the ladies in their labours amongst the female emigrants. Here may be found, from 11 o'clock till 3, on Tuesdays, Thursdays, and Saturdays, two or more of the members of this most valuable Committee, teaching their classes knitting, sewing, patchwork, how to cut out articles of dress, and, above all, how to behave themselves "as becometh the Gospel of Christ." The naked are here clothed; the destitute are relieved; the sorrowing are comforted, the weak encouraged and strengthened. When I think of all the difficulties that lay in our way but a few months ago, and see now the complete success which has attended our efforts, I feel my own heart lifted up in thankfulness to Almighty God, who is thus blessing so signally the feeble labours of his weak and unworthy instrument.

"The second matter of importance, the licensing of the Emigrant Chapel at the Birkenhead depôt, has, through the kindness of the Lord Bishop of the diocese, been also effected. For many months after the fitting up in a temporary way of this chapel, there was some danger of its being used as a common place of preaching for all religions; now, however, it is licensed by the Bishop, and the congregation is chiefly members of our Church.

"During the last half-year, I have had, on board ships in the river, 149 services, each including a lecture; and in the Depôt Chapel, 153 services, each including a lecture or sermon. Within the same period I have baptized 129 children, and on 34 occasions administered the Holy Communion.

"The vastly-increasing stream of emigration to Australia is formed of a superior class of persons. It would be impossible to describe the interest which these fine, intelligent English and Scotch people exhibit in the spiritual aid afforded them by my ministrations.

"Indeed, I feel strengthened from day to day, in the assurance that I have the prayers of many a dear child of God amongst them.

"A letter has been forwarded to me, addressed by a young Irishman—a pious member of the United Church—to his mother, who resides in the county of Monaghan. He writes from Australia, dating April 6th, 1852. I find he left Liverpool in December 1851, and that I had presented him with a Bible, a Prayer Book, and a copy of the "Churchman's Companion," a valuable work by the Rev. T. Dowell. I do not think it will be out of place to give a copy of this interesting letter. The orthography is literally as follows:—

"C —, South Australia

"My darling mother

April 6 18 hd and fifty too

here i am thanks be to the Lord safe and well at the goold ragings on the other side of the world glory be to God my dearest mother we were all in sich reglar confusion after landing at Sidney that I could not sit down to rite to you And my deer margaret but I felt all as one as if I was with you at home on the ould ground at K——

australia is a quare place not a taste like the county monaghan or I bleeve any place else. But in my next letter i hope to insinse you into the whole consarn the First day i and jim Gordon begun to Dig i turned up a nate bit of goold nuggets the call them here about the size of your themble i intend please God my darling mother to sind you this as soon as I can get to sidney and Find a dacent captin of a ship going to liverpool. We got a dale every day sence i think youl be freckened when i tell you that I have the worth of 400 pounds this minit under the table where I am riting waiting for the escort but my darling mother tho we have good luck in regard of money i am afearod of the curse of God upon us all count of sabath breaking as two jim and i thry to keep the Sunday as well as we can i reed the prayrs and jim reeds the lessons by ourselves under a rock near the River every sunday Oh mother as long as you live go to church i would give $\frac{1}{2}$ my diggins For one sight of a clargyman once more reeding the ould Prayrs fornint me i niver new what it was to be in a furrin country til i came up here Theres a Power of inglish and skotch but they are mighty careless and Covechus As jim says and its true they Live like haythins and dy like Dogs

jem made a Prayr and says it every night me and him that God Almighty would sind a minister into This place and I hope my darling mother you and margaret will Pray the same night and morning theres a nate quite boy here that we know from linkinshire a carpinter and he says if a parson comes he will bild a house for him for Nothing theres a man higher up the River a methodist i think one of the Diggers who Prophesises that if the sundays is not better kep weell have a place or a fammen before we are much oulder And its no wonder Deer Mother i dont forget you who far A way when I make Little more money here i dont intind to forsake you but to go Home once more and bury you dacinly with the Help of God. give my love to James kirke likewise to his wife mary to my deer margaret and accept the same youself my darling mother above the World and Remin your

Obadient and Affectionat

son James J————

“To Mrs. Catherine J————

G————

K———— post Office

County Monaghan

Ireland

“Nota Bania i promised to rite to the emagrations chaplain at liverpool sind him This letter and tell him I will soon send him a long account of what I am doing ”

EMIGRATION FROM THE RIVER MERSEY FOR 1852. NUMBER OF SHIPS, 925.

United States	-	-	-	-	-	-	187,962
South America	-	-	-	-	-	-	347
North American Colonies :—							
Canada	-	-	-	-	-	-	3,872
New Brunswick	-	-	-	-	-	-	328
Nova Scotia and Cape Breton	-	-	-	-	-	-	60
Newfoundland	-	-	-	-	-	-	52
Prince Edward's Island	-	-	-	-	-	-	51 — 4,363
West Indies	-	-	-	-	-	-	73
Africa	-	-	-	-	-	-	91
Australian Colonies :—							
Sidney	-	-	-	-	-	-	4,013
Port Phillip	-	-	-	-	-	-	29,378
Van Diemen's Land	-	-	-	-	-	-	608
South Australia	-	-	-	-	-	-	2,264—36,263
Grand Total-	-	-	-	-	-	-	229,099

LICHENS AND MOSSES.—No. II.

WE have seen in a former paper how wonderfully God provides for the first breaking up of the surface of the stony rock by means of that humble class of plants, the Lichens. On the stratum of soil thus commenced, another tribe of diminutive, though very beautiful plants, the Moss tribe, speedily establishes itself, and carries on the work of preparing the ground for the reception of plants of larger growth and more complete structure. No student of nature can have failed to notice and admire the mosses, to whose vivid and varied tinting our landscapes owe so much of their beauty, especially in the winter season; for it is in the coldest parts of the year that this lovely portion of the vegetable kingdom presents itself in its fullest beauty. There is no season in which these tiny plants may not be found clothing the surfaces of stone walls, rocks, and banks, as well as of the trunks of trees. They are the produce of all parts of the world, where the atmosphere is moist: but although they may be found in very cold latitudes, both north and south of the equator, they abound most in temperate climates.

Mr. W. Gardiner, of Dundee—an author who, though by birth and habit occupying a low position in life, has raised himself by his industrious and intelligent researches into the treasures of the vegetable kingdom to be the respected assistant and associate of men of science—thus describes the localities in which they are found, which are as varied as the forms they assume:—"Some are found in the deepest valleys, by the sides of lonely

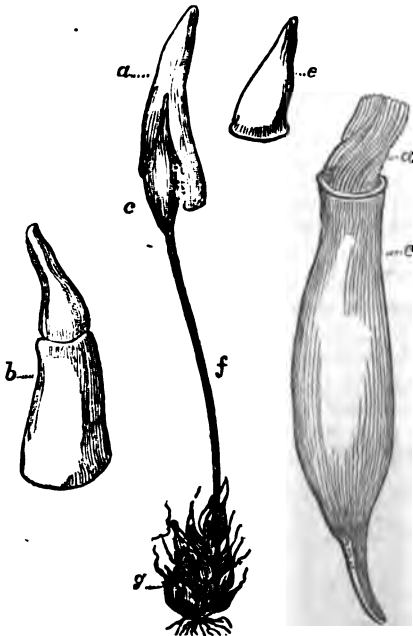


Fig. 1.—*TORTULA MURALIS*.

being, the greater is usually its tenacity of life, under circumstances which

streams, or within the spray of roaring waterfalls; others brave the tempests of lofty mountain-summits, or seek shelter among their shelving rocks; many court the shade of the forest, or nestle about the roots of the hedge-rows, whilst various species seek the open fields or the sunny wall-tops, or have their homes in the deep morass, or dwell on the sandy shores of the mighty ocean." Mosses have a wonderful power of resisting extremes of temperature, and exhibit a very remarkable tenacity of life when their growth is checked by want of moisture, so that they may be often restored to vitality when they have even been dried for many years. There is nothing in their simple and delicate structure which would lead us to infer that they would be thus enduring. "But," remarks Carpenter, "it is with plants as with animals. The more simple and lowly the

depress the vital powers of higher kinds, whilst the influence they require are often too powerful for it. Thus mosses and lichens, overstimulated by heat and dryness, wither away in summer, but vegetate freely at a season when there is no other vegetation." Mosses exhibit a very singular and beautiful structure, and occupy the next place above the lichens in the scale of vegetation. A moss, like other plants, has a root, and also a stem and leaves, and these, with the parts which form the seed-vessel, constitute the whole plant, every part of which is composed of cellular tissue, without any trace of woody fibre, or of those vessels for the transmission of air or fluid, which are found in plants higher in the scale of vegetation. Their fructification consists of a capsule, or urn (Fig. 1 *a*), which in some species is borne aloft on a footstalk, called the "*seta*" (Fig. 1 *f*), and in others it is sessile, and nestles among the leaves. When this capsule is examined in its earliest state it is found to be one of many small, bottle-shaped bodies, clustered together, and sheltered under a membrane, that tapers upwards to a point. Most of these prove abortive, and never come to perfection; but in the process of time one bursts the membranous envelope, the greater part of which is carried upwards on its summit, and forms what is called the "*calyptra*," or hood (Fig. 1 *a*). When this falls off we see that the capsule (Fig. 1 *c*) is a little vessel, something like an urn, covered with a lid called the operculum (Fig. 1 *e*). When this lid is removed, we perceive that the vessel is hollow and contains the seed, and that around its margin is a fringe resembling hair. This fringe is termed the peristome; it does not exist in all mosses, some few species having the mouth of the theca, or urn, covered with a simple membrane; but where it does exist it is always found to consist of four, eight, twelve, or some other multiple of four—*sometimes* as many as sixty-four. These hairs, which are called the teeth of the peristome, or fringe, originally form a double row, one part springing from the inner, and the other from the outer coat of the capsule; when mature, however, one or other of these is frequently wanting, and sometimes both are obliterated. On the form and position of the capsule, the shape of the calyptra, and the number and arrangement of the teeth of the fringe, chiefly, are founded the subdivisions of these mosses into families, genera, and species. The spores, or seeds, as they may be called, are contained in the upper part of the capsule, where they cluster round a central pillar, called the "*columella*."

Let us now take for our example that pretty little moss which grows in green tufts on almost every vale, the Wall Tortula (*Tortula muralis*, Fig. 2). It is within the reach of all, and will afford us specimens of each of the parts of fructification. The calyptra, or veil, or hood, for it is called by either name, is in this species not unlike the cap of a Norman peasant-woman (Fig. 1 *a*). This which, as we have seen, originally covered the young fruit, as the stem, or seta (Fig. 1 *f*), lengthened, was borne up on the top of the capsule (Fig. 1 *c*). Now take off this little cap, and place the capsule under a magnifier, and you will discover more accurately the form of the operculum, or lid, which still covers the mouth of the urn (Fig. 1 *b*), but which would have been spontaneously thrown off when the spores were fit for dispersion. If you remove this lid, you will find that it covered a kind of tuft of twisted hairs, which at first look as it



Fig. 2.—*TORTULA MURALIS*.

they stopped up the mouth of the theca (Fig. 1 a); but if you cut the capsule perpendicularly from the bottom to the top, you will perceive that these hairs, which form the peristome of which we have spoken, arise in a single row from the rim of the theca. What office this elegant apparatus has to perform is scarcely ascertained, but it is supposed to be connected with the dispersion of the spores, as also to protect them in damp weather, and often acts in a most beautiful manner under the influence of moisture. If, when dry, you place the theca of this or many other mosses in a damp place, or even breathe gently on them, you may perceive this effect, and see the delicate hairs uncoil themselves with a graceful and steady motion, exquisitely beautiful to behold. You will scarcely be able to discern the spores unless you have a microscope of considerable power, but you may perceive the columella, around which they lie in a thin bag, open at the end, both column and spores being contained inside the theca.

In dry, sunny weather this fringe opens, and the spores are scattered by the breezes, and wafted to places suitable for their growth, where they spring up, grow into beauty, and die, their perished bodies forming soil on which the mosses of a future year may vegetate and flourish.



Fig. 3.—SLENDER BOG-MOSS.

Having now noticed the different parts which constitute a moss (which parts, however, vary much in the different species), let us now take a glance at some of the different genera, and their habits and habitations. There is one very beautiful genus, which may be almost termed aquatic, for they are only to be found in bogs, and there seek out the wettest parts. This is the genus *Sphagnum* (Fig. 3). Wherever you see a bit of bog richly carpeted with moss of a delicate green, almost white, but tinged here and there with brilliant scarlet from its decaying members, there forbear to tread, for you will inevitably find that the lovely clothing covers a depth of watery mire, into which you would plunge ankle-deep. In all mosses of this tribe, a dark-brown theca, without any fringe at its mouth, is found clustering among the pale leaves. There are other mosses besides the *Sphagnum* found in bogs; one is the Bottle-headed *Splachnum* (*S. ampullaceum*); another the Marsh *Bryum* (*B. palustre*), a dwarf sort of very peculiar structure, and several others. Under the splash of fountains and waterfalls we find the Fine-leaved *Didymodon* (*D. capillaceum*), which grows in dense tufts of brilliant green, in crevices of moist rocks, near rushing waters. In such stations many species of *Hypnum* also luxuriate, which is a very elegant tribe, emphatically called "Feather-mosses," from the graceful and feather-like forms which they assume. There is one, known as the Long-beaked Water Feather-moss (*Hypnum ruscifolium*), which grows under water, either in still streams or amidst the rush of waterfalls, its dark green foliage looking very lovely as it is spread out by the transparent waters; and another, the "Ostrich plume," or "Prince's Feather-moss," at once the most beautiful and the

rarest of our mosses. It grows in lax tufts all through the summer in woods; its stems are often six inches long, and its dark oblong capsule, with a conical lid and double row of teeth, each divided into sixteen parts, is lifted on a slender footstalk, which springs laterally from the branch, and its calyptra is split up in the manner termed dimidiate. The appearance of some of these long feathery mosses, when the sun shines on them and is reflected on the myriads of sparkling drops which hang on their bright-green branching foliage, is exquisitely lovely. There are many other kinds of moss of different tribes, which float on the living streams or lurk beneath the spray of the cascade; and there are others which can be found only on the lofty mountain's height, or the broad wild heaths, where they are fed entirely by the dew of heaven. One of these, the "Woody Fringe Moss" (*Trichostomum lanuginosum*), establishes itself on stones and rocks on the moors, giving to them quite a hoary appearance. It spreads in broad patches over the driest stones on Dartmoor and other such wilds: the whole plants, being closely covered with a long, whitish, hairy down, formed by the extension of the nerves of the leaves, have a very singular appearance. They are perennial, and often found in winter or



Fig. 4.—CRISP BRISTLE MOSS.



Fig. 5.—EXTINGUISHER MOSS.

early in spring, encrusted with snow, yet bearing a profusion of fruit beneath their icy covering. Then, again, there are others which are to be found on walls and roofs of houses, on trees, or rocks indifferently. Our example, the Wall Tortula, is one of these, and the pretty Pincushion Moss (*Grimmia pulvinata*) is another. These grow in tufts; and each little plant which aids in forming such is not at longest above an inch from its root to the summit of its capsule. Some other species are confined to trees, as the straight-leaved Bristle-mosses (*Orthotrichum affine*), and *O. crispum* (Fig. 4), a species in which the teeth of the peristome are very distinct and beautifully defined, and in which the very hairy calyptra is a marked feature. The Encalyptra, or Extinguisher Moss (Fig. 5), is chiefly found on walls and stony banks. This last named is a very remarkable species, from the disproportionate size of the calyptra, which entirely covers the

whole of the capsule, and looks much like an extinguisher placed over a candle. There are many other genera which present us with species full of beauty and interest, but we must limit ourselves to the notice of one more,

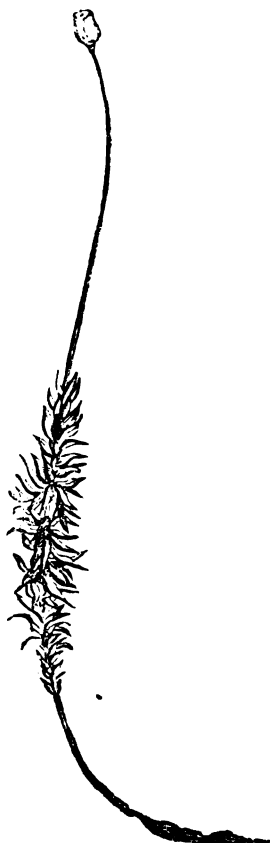


Fig. 6.—POLYTRICHUM.

the genus *Polytrichum* (Fig. 6), so named from two Greek words signifying "many" and "hair," on account of the very numerous hairs on the calyptra. Most of the species are very large, some of them being as much as nine inches in length. Mosses of this family adorn our heaths and the sides of streams at all seasons of the year, but chiefly in the summer and autumn. They are easily distinguished by the rigidity of the leaves and the square form of the theca, which is generally covered by a very hairy divided calyptra, although occasionally this organ is smooth. The theca grows on a terminal footstalk, and is large and conspicuous: the peristome is double; the outer one, consisting of thirty-two, or sixty-four equidistant teeth, curved inwards, the inner of a dense horizontal membrane connected with the outer teeth.

Mosses are but little dependent on soil for their support, for, like the lichens, they derive the greater part of their nourishment from atmospheric supplies. They are the most extensively diffused of all plants, extending from the confines of perpetual snow to the torrid zone. Even the most barren spots afford the conditions requisite for their development. They are of little direct use to man; but their indirect uses, in preparing the way for higher forms of vegetation, and their power of absorbing and retaining moisture, which makes them a shelter and protection to the plants and trees round the roots of which they cluster, render them of the highest importance to him. Mosses, however, afford little food

to living creatures; few insects harbour on them; no butterfly obtains nectar from their flowerless stems; and if at any time cattle or the smaller animals which frequent the woods and wilds should eat of them, it is by chance and not by choice; and thus, though higher in the scale of vegetation than the lichens, they must yield precedence in usefulness to their humbler relations, among whose ranks are found individuals which supply, not only food to many of the inferior animals, but also food and medicine to man, as well as articles of high importance to the perfection and beauty of his manufactures.

HE lives long, who lives well; and time misspent is not lived, but lost.
THERE are few, very few, that will own themselves in the wrong.—SWIFT.

CURIOSITIES OF PHYSICAL GEOGRAPHY.—No. IV.

THE animal kingdom comes next in order. Parry found only six species of insects during a stay of eleven months in Melville Island, because lichens and mosses do not supply food for this division of the animal kingdom. On the other hand, it is said that forty different insects are quartered upon the nettle. Notwithstanding their facilities for migration, insects frequently confine themselves to a particular locality. Mountain chains are an effectual barrier to their movements, they even differ on the two sides of the Alpine Col de Tende. Some American insects are years in reaching their perfect condition. The *Simulium columbense*, a minute mosquito, swarms to such an extent in some parts of Hungary, that it is impossible to avoid swallowing many; cattle and children have been killed by them. In South America whole districts are rendered uninhabitable by insects, which are so numerous on some parts of the Orinoco that they form a dense cloud twenty feet in height. Strange to say, they do not infest dark-watered rivers. In Brazil they so abound as to be often heard on shipboard at some distance from the shore; in this country there are thirty species of stingless bees. In South America there are fireflies, whose pale green light is visible two hundred paces off. Brazil has a scorpion six inches long, and the sting of a species of this insect in Carthage produces loss of speech for days. White ants are so destructive in South America that, according to Humboldt, no manuscript one hundred years old is to be found in the country; huge bird-catching spiders are also found here. Locusts cross the Mozambique channel, which is one hundred and twenty miles broad. Butterflies sometimes migrate in clouds. Insects, invisible to the naked eye, are found in air, sea-water, rain, fog, snow, ice, stagnant water, animal and vegetable juices, volcanic ashes, pumice, opal, the minute dust that sometimes falls upon the sea, peat bog, dug up from considerable depths, and in boiling water. There is not a drop in the ocean which does not perhaps encircle nearly as many tenants as there are inhabitants on the earth.

After the curiosities of insect life, we will go on to those relating to marine animals. In Ross's antarctic expedition living creatures were brought up from a depth of six thousand feet, and there are reasons for believing that animal life exists under the enormous pressure of two and a quarter miles of water. The ocean is often tinted by myriads of insects. In the Arctic seas spaces of twenty or thirty square miles are discoloured to the depth of fifteen hundred feet by animalcules. Scoresby estimated that there are so many insects in two miles of this water, that it would employ eighty thousand persons unceasingly, from the creation of man to the present time, to count them. Now one-fourth of the Greenland Sea consists of such water. The argonauta hoists its sail and swims along the surface of the ocean; cod-fish migrate in such dense shoals that the sounding lead can scarcely fall through them; sixteen millions have been taken at one place in a few weeks. In the North American lakes there is a thick-scaled fish, somewhat resembling those of the far remote eras of geologists: the Gillaroo trout is found in Ireland only. A cuttle-fish at the Cape de Verd Islands adapts its changing colours to the hue of the ground beneath it. Many marine creatures are luminous, causing the ocean to appear as if on fire, and the wake of a ship to resemble a stream of flame. Some possess the power of giving electric shocks. Fishes that live at great depths have large eyes (and some have serrated tails with which they defend themselves). A million seals are killed every year in the South Atlantic. The lamantin, or

sea-cow of the Amazon, is found in that river twelve or fifteen feet in length, with a round body like a wine-skin, browsing in herds on sub-aquatic herbage. The dugong, of eastern seas, sits upright to suckle its young, which has given rise to the fabulous mermaid. The sea-unicorn has an ivory tusk, with wreathed grooves growing straight from the head to the length of eight or ten feet. Occasionally it has two tusks of equal length. Scoresby has seen fifteen or twenty of these creatures sporting round his ship, and crossing their tusks as if they were fencing. The spermaceti whale, averaging sixty feet in length and forty in circumference, and having a throat wide enough to swallow a man, swims in herds of five or six hundred. In their play they bound several feet into the air, falling back again with a cannon-like crash into the sea, which is lashed into lofty foam-capped columns. These creatures will sometimes bite a whaling boat in two; in 1820, one of them drove into and wrecked an American ship. Rorquals are sometimes from eighty to one hundred feet long; these whales are the largest of marine animals. The chætodon, a native of the fresh waters of India, catches its prey by darting a small quantity of water at it; in this way it will knock off an insect from the leaf of a plant at a distance of five or six inches.

We will now turn to reptiles. There are sixty species of tree frogs, all of brilliant colours, and living mostly on lofty trees. They can walk on the under side of the smoothest leaf. A North-American frog croaks in bands; one band commences, a second responds, and a third answers, till the croaking is heard at a considerable distance; then follows a pause, after which the noise is heard again. At Rio Janeiro there is a little tree frog which croaks in different notes. In Brazil there is a toad a foot long. In general there are twenty times as many harmless snakes as poisonous ones. Tree serpents are found in tropical countries: they are generally green; and some feed on birds, which they watch suspended by their tails from boughs. Sea snakes are venomous and peculiarly fierce; they inhabit the Indian seas in shoals. Hindostan possesses a dragon with wings of skin, which serve to float the animal as it leaps from bough to bough in pursuit of insects. Some lizards can change their colours, assuming a succession of ever-varying hues. In Australia there is a lizard with a tail shaped like a leaf. A turtle with a leathery covering has been sometimes caught on the English coasts, of the weight of eight hundred pounds; some turtle have weighed from fifteen hundred to sixteen hundred pounds, or more than nine good-sized men.

It is not known that there are toads, frogs, or snakes, in any of the Polynesian Islands, except those called the Marianne Islands, nor are they found in Terra del Fuego or in the Falkland Islands.

Birds next engage our attention. Migratory birds, when they fly in company, usually have a leader; wild swans fly in a wedge-shaped flock, wild geese in a line. Oriols, goldfinches, and redbreasts, taken from Canada to the United States when young, immediately fly northwards towards their early home, if freed from confinement when the time of migration has arrived. Storks and swallows are exact even to a day in their time of departure. The breast muscles of a swift exceed all the rest of the body in weight; hence this bird darts along at the rate of one hundred miles an hour. The eider-duck lines her nest of seaweed with down from her own breast; this down is taken twice in a season, and the third time the drake supplies the lining from his breast. In Faroe are twenty-five crags called Vogelbird, or bird rocks, lying in a terrific chasm, encompassed by rocks one thousand feet high. Upon the low rocks, scarcely above the

water, perches the glossy cormorant; plundering skuas occupy a higher shelf; next come kittiwakes, on close-packed rows of nests, the heads of the mothers almost in contact; then auks and guillemots marshalled in order, with their white breasts toward the deep, and absolutely touching one another; last of all come the puffins, almost imperceptible at such a height, but from their flying backwards and forwards. Tropical birds are often gorgeous in their plumage; kingfishers of brightest colouring; flycatchers of metallic lustre; the drongo in its coat of ultramarine; the calyptomene decked in emerald green; trogons dressed in vermilion and gold; pheasants of brilliant hues; honeysucking birds, with tongues ending in a brush; the magnificent royal bird of Paradise; beautiful pigeons; vividly-coloured huge-beaked toucans; and indescribably-gorgeous humming-birds, some no larger than a humble bee: here we have the campanero, with its bell-like toll, startling the South-American traveller.

The African weaving-bird forms its nest with grass and twigs, skilfully interwoven. The condor of the Andes builds its nest at an altitude equal to that of Mont Blanc; and Humboldt saw it wheeling in the air at the height of twenty-two thousand feet, or more than six thousand feet higher than that mountain. The kamichi of South America has one or more sharp spurs at the point of each wing, forming a terrible instrument of attack. The albatross sometimes measures fourteen feet from tip to tip of its wings. In Australia we have the *Menura superba*, whose outspread tail is shaped like an ancient lyre; birds that deposit their eggs in mounds of putrifying matter to be hatched by the heat—these mounds being often more than fourteen feet in height, and as much as one hundred and fifty feet in circumference; and the bower bird, the artistic connoisseur of the bird race.

In New Zealand we have the nocturnal and burrowing apteryx, a huge bird that can neither fly nor swim, now nearly extinct; and at no very distant period this country possessed the dinomis, one species of which was eleven feet high, twice the height of an ostrich. Here too, we have the parson bird, with its white tuft on its jet black coat: this bird can be trained to speak whole sentences.

Animals are the next in order. In Kamschatka rats migrate in spring in great numbers, travelling eight hundred miles over rivers and lakes. The Lapland marmot migrates in bands once or twice in a quarter of a century: some of these bands go into the Western Ocean, others into the Gulf of Bothnia, where they perish. Some European animals are confined to one locality: the mouflon is found only in Corsica and Sardinia; Sicily has several of its own bats and mice. Asia has sheep about as high as a year-old colt, with fine curling horns. In Africa, quadrupeds may often be seen wandering in troops accompanied by ostriches—a curious companionship.

Humboldt remarks that the most intelligent apes are the least gay. The Esquimaux dogs were taught to bark by dogs in ships of discovery; previously they had been mute. The jaguar of South America, hunting as it sometimes does in troops, has been known to kill the people of a whole village; the vampire-bat of this continent enters huts by night and drains calves and other animals of blood, so that they sometimes die, and occasionally it attacks men.

In Australia is found the ornithorhynchus, with the head of a quadruped, and a bill like that of a duck. It is an aquatic animal, inhabiting burrows on river banks; another animal similar to this, but covered with spines, is found here.

Last of all comes *man*, so diversified, both physically and mentally, and yet anatomists have found what the Bible had already declared, that the black, thick-lipped, woolly-haired negro, and the white-skinned, regular featured, fine-haired Englishman, are mere varieties of one species.

Nations sometimes die out without any perceptible cause: in Europe, pure Celtic blood has been on the decline for two thousand years, and, strange to say, the Celts are almost invariably Roman Catholics. Many instances have occurred of black parents having albinos of a pearly white with red eyes, and red-haired children. The features of the Ethiopians, Persians, and Jews, have not varied for more than three thousand years, as we know from ancient paintings. There are blue-eyed, fair-haired people in the Raddihua mountains of Africa, and similar instances are not very uncommon. The Esquimaux lives entirely on animal food, and requires ten or twelve pounds of meat and fat in twenty-four hours, whilst the Bengalee subsists on a rice diet. It is believed that no particle of a man's present body formed any part of that which he inhabited seven years ago. The most savage people are the ugliest; intercourse with civilized men greatly improved the expression of the countenances of the Fuegians brought to England in 1830, by Fitzroy. In about a year after their return home their look of intelligence had vanished. Some nations seem stationary: Hindostan and China have made no advance in the historical period. Civilization alters climates: it was once deemed impossible for grapes to ripen in France north of the Cevennes; and the Rhine and the Danube had an annual coating of ice thick enough to bear anything. Man can tame even the hyena, which has been seen to lie down like a dog and lick the hands of a stranger, who many months before had been kind to it on a voyage from India. Man is a free agent; but the way in which this free agency is governed by general laws is strikingly shown by statistical details. For instance, from tables kept in Belgium, it appears that nearly the same number of marriages take place every year; and so exact is the uniformity that it is found to exist even in the number of annual marriages between persons similarly situated with respect to age, as, for example, in the number of men of thirty years of age and under, married to women of sixty and upwards. The same regularity is observed with respect to crime, and in the number of convictions of persons tried, which in France was sixty-one, year after year, out of every hundred trials. Forgetfulness, too, is under general laws: about two thousand letters are posted in London every year without an address. In many parts of the world magnificent ruins attest the former existence of people of whom nothing is now known. Stephens discovered ruins decorated with sculpture and pictorial writings in the forests of Central America; and splendid buildings, in good preservation, are to be found all over Eastern Asia. During the years 1845 and 1846, there were fifteen counties in England, and eleven in Wales, in which no person who could read and write fluently was convicted of any crime; and in 1846, only forty-eight educated persons were convicted in all England and Wales.

Here we bring our curiosities to a close, though the subject might easily be extended to volumes. If the wisdom, the power, and the goodness of the Creator have been made more apparent by this slight detail of a few of the wonders of His creation, we rejoice, and ask the reader to unite with us in fervently breathing the words of Holy Writ—"O Lord, how manifold are thy works!"

THE EDDYSTONE LIGHTHOUSE.—No. II.

ON the 22nd of August, 1755, the workmen returned on shore, having finished all necessary repairs for the season ; between which time and the 1st of December following the attending boat had been several times to the lighthouse, landing stores, when the light-keepers made no complaint excepting that one of the bricks in the fireplace of the kitchen had become loose by the shaking of the building. It does not appear, however, that the fire commenced in the lower part of the lighthouse, for on the morning of the 2nd of December, about two o'clock, when the light-keeper, then upon the watch, went into the lantern as usual to snuff the candles, he found the place full of smoke ; and, on opening the door into the balcony, a flame instantly burst from the inside of the cupola. He immediately endeavoured to alarm his companions ; but they, being asleep in bed, were not so ready in coming to his assistance as the necessity of the occasion required. As leathern buckets were kept in the house, and a tub of water in the lantern, he attempted as speedily as possible to extinguish the fire in the cupola by throwing water from the balcony on the outside covering of lead ; but even with the aid of his comrades, who now came up, the task of raising water upwards of seventy feet from the sea prevented their making much progress in stopping the mischief ; and as, to be of any service, the light-keepers had to throw water four feet above their heads, we cannot be surprised that they should have been unable to arrest the fury of the flames. The fire, instead of being extinguished, increased ; and a remarkable circumstance at length put a stop to further exertions. While looking up at the direction and success of the water thrown upon the flames a quantity of melted lead suddenly rushed in a torrent from the roof, and fell upon the face and person of one of the unfortunate men, severely burning his neck and shoulders, while he declared "that a quantity of the burning lead had fallen into his open mouth and passed down his throat." Alarmed at this shocking occurrence, and at the increasing fury of the fire, the men became so intimidated that they retreated from the scene into one of the rooms below, with but the melancholy prospect of retiring downwards from room to room as the fire advanced over their heads. Early in the morning the lighthouse was discovered to be on fire by some Cawsand fishermen, and a boat was instantly procured, and sent to the rescue of the people who were supposed to be in such a perilous situation. This boat reached the rock at ten o'clock, after the fire had been burning full eight hours ; and during this time the three light-keepers were not only driven from all the rooms and the staircase, but, to avoid the falling of the timber, red-hot bolts, &c. they had taken refuge in a hole, or cave, on the east side of the rock, it being then low water ; and here they were found almost in a state of stupefaction. The wind was easterly at the time, and though not very strong, was yet sufficiently so to render the landing on the rock both hazardous and difficult ; the gallant crew, however, succeeded in taking off the men, and then proceeded with them to Plymouth. No sooner were the men landed than, strange to say, one of them decamped, and was never heard of afterwards. This circumstance occasioned at the time considerable suspicion as to whether the fire might not have originated in design ; but the peculiar situation of the lighthouse seemed to preclude the possibility of its having been burnt wilfully, unless as a means of self-destruction. Mr. Smeaton attributed the man's flight "to that kind of

panic which sometimes on important occurrences seizes weak minds, leading them to act without reason, and in so doing to commit actions the reverse in tendency of what they mean them to be, and of which afterwards they may have to repent in vain."

Admiral West, who then lay with a fleet in Plymouth Sound, on hearing that the Eddystone was on fire, immediately sent out a sloop, properly manned, with a boat and fire-engine; but in endeavouring to make a landing of the engine on the west side the boat, with its men and engine, were flung upon the rock by a wave, which retreated and left them there. Before the engine could be got out another wave came, set them afloat, and swept them back again upon the sea. Although British tars are not dismayed with small matters, this accident taught them that any further attempt to land might be attended with loss of life. They notwithstanding attempted to play the engine from the boat; but the agitation of the waves soon broke the engine hose, and their well-meant expedition ended in defeat and disappointment. The fire was left, in consequence, to its own course; and during the succeeding days it was observed that the interposed beds of timber were sufficient to heat the moorstone beds red-hot, and that the whole mass became one great body of solid fire. It was not until the seventh day of the month that the joint action of the fire, the wind, and the sea, totally completed the catastrophe; and no trace of the structure remained, save that the greatest number of the iron cramps and branches were left standing upright upon the rock.

The unfortunate man who discovered the lighthouse to be on fire, and suffered so much from the melted lead, was sent to his own home at Stonehouse, near Plymouth. His name was Henry Hall, and though ninety-four years of age he was a remarkably healthy, active man. He repeatedly declared that he had swallowed a quantity of lead; and the fact, which was disbelieved during his illness, was proved to be correct when he died twelve days afterwards, for a piece of lead was then found within him, which weighed more than seven ounces.

For many years the lighthouse was attended by two men only; and, indeed, the duty required no more, as the principal part of the employment, besides keeping the windows clean, was the alternately watching four hours, to snuff and renew the candles; each at the conclusion of his watch taking care to call the other, and to see him on duty before he himself retired to rest. But it happened that one of the men was taken ill and died; and although his comrade hoisted the Eddystone signal flag, yet the weather was for some time so boisterous that no boat could get near enough to the rock to speak. The remaining man found himself in a painful dilemma; for if he threw the body into the sea he might be charged with murder; he therefore allowed it to remain where it was, until it became so offensive that he was at last unable to enter the building. When the attending boat at length effected a landing, a month had elapsed since the man had died, and the consequences may be better conceived than described. This circumstance induced the proprietors to employ a third man, so that in case of the recurrence of a death, or the sickness of either, there might be constantly one to supply the place. This regulation also afforded the men a seasonable relief, as they might in their turn occasionally visit the mainland, from which they had exiled themselves.

The third, and present, lighthouse was erected by the late Mr. Smeaton. This gentleman was originally a philosophical-instrument maker, and being elected a Fellow of the Royal Society, as a compliment to his well-

known talents, was also honoured with the esteem and friendship of the then president, the Earl of Macclesfield. By him he was recommended to Robert Watson, Esq., one of the proprietors of the lease held under the Trinity House, as a person eminently qualified to construct a new edifice on the Eddystone rocks. From a careful inspection of the plans and models of the former lighthouses, Mr. Smeaton was so struck with the reasons which had caused the failure of both these structures, that he proposed a building composed entirely of stone. This scheme involved the expenditure of a much larger sum than was appropriated; but although nearly half of the original lease had expired, the proprietors expressed their willingness "to rebuild the lighthouse in any better or more durable form for the benefit of posterity." On these conditions Mr. Smeaton undertook the building; but, at a subsequent meeting of the proprietors, objections were raised to its being wholly of stone; and such were the prejudices of many well-informed individuals that it was not without considerable difficulty that stone was adopted instead of timber. Their chief objections were, that the safety of Rudyerd's lighthouse during so many years had mainly depended on the elasticity of the materials employed, which enabled it to yield to the shocks of the sea. Indeed it was affirmed that the motion of that wooden building had been so great during violent storms as to throw trenchers and other articles from the shelves in the upper rooms. To this Smeaton replied, "that the great agitation of the building arose from its want of weight, as well as want of strength; that the edifice he had in prospect would be much more substantial, and would not give way to the sea, but the sea would give way to the building."

Mr. Smeaton set out on his first visit to Plymouth upon the business of the lighthouse, on the 22nd of March 1756; but, strange as the fact may now appear, did not reach his journey's end until the 27th, "on account of the badness of the roads." On the 5th of April he landed for the first time on the Eddystone reef, where he found a number of iron bars, or bolts fixed in the rock, the last relics of Mr. Rudyerd's building. The extreme difficulty which attended the landing, induced Mr. Smeaton to adopt the expedient of keeping a vessel at anchor within a quarter of a mile of the rock, which should be capable of lodging the workmen and their tools, and thus enable them to take advantage of every favourable opportunity of launching their boat, and conveying materials at once to the rock, instead of having to take the voyage from Plymouth on each occasion. A workyard was also hired at Stonehouse, the site upon which the marine barracks now stand, and materials collected, both from the granite quarries of Cornwall, for the outside casing, and from Portland quarry, for the hearting, or interior work of the building.

The artificers were formed into two squads or companies, and placed under their respective foremen, who alternately relieved each other at the rock,—the party on shore being employed in the workyard.

The perils and exertions of both the architect and his associates were very great, and on one occasion the sloop, in which Mr. Smeaton and eighteen seamen and labourers were on their way to Plymouth, was all but lost.

At this period work was not done by contract, as it now is, and the workmen appear to have been much more independent than Mr. Smeaton quite approved of.

The wages of the foremen, while out at sea, were 5*s.* per day, and the further premium of 1*s.* for every hour spent on the rock; but when em-

ployed in the workyard, or otherwise on shore, their wages were 3s. 6d. per day. The masons, 2s. 6d. per day at sea, with a premium of 9d. per hour; and the timbers, or Cornish miners, who at this time came in numbers to Plymouth in search of work, had 2s. per day, with a premium of 8d. per hour. That the seamen might be encouraged to use every exertion in landing the workmen at the rock as early as opportunity allowed, and supplying them with materials for their work, besides their weekly wages of 8s., they also received a premium for each landing. The general assistant, Mr. Jessop, was paid 10s. 6d. per day at sea, and 5s. on land, wages which did not include provisions.

"In carrying on a work of this sort," says Mr. Smeaton, "I have always found it more difficult to manage the workmen employed than to control the elements. High wages and encouragements may have the effect of inducing men, in cases where they cannot be compelled, to enter into such services, which no other kind of persuasion would be able to accomplish. This mode, however, by no means teaches them submission and obedience; on the contrary, it leads them to suppose that every success in the operations they have been concerned in, is owing to their own personal merit and address. Of this I had several examples in the course of the outworks of the last season, having discovered a strong tendency to mutiny and combination. William Hill, though as a foreman he received one shilling per hour extra pay, and had, in one week of the preceding season, entitled himself to the sum of five guineas, including his constant wages, yet this by no means increased his gratitude for being employed, or his attachment to the service." This man Mr. Smeaton was compelled to discharge, for disobedience to orders, as an example to other offenders. When he came to fetch away his tools, he claimed the fulfilment of the promise made by his fellow-workmen, that if he should be discharged, they would all leave with him. But upon Mr. Smeaton begging "that they would by all means follow William Hill," they seem, with the exception of one stonemason, to have prudently declined. In consequence of this example, the wages for extra work were lowered, and the men were allowed to work on the rock or on shore without compulsion; but they all, to Mr. Smeaton's satisfaction, expressed a perfect readiness to work on the rock as before.

The workmen in the time of Mr. Rudyerd were protected from the French privateers, as we have before said, by a vessel of war appointed for the purpose; but the generous interference of the French king appeared to give assurance that it was now no longer necessary. Still, the boats and sloop were much hindered and annoyed by being boarded by the English men-of-war's cutters, to impress the men; and notwithstanding that they were furnished with Admiralty protections, the officers commanding the press-gangs were frequently indiscreet enough to pay no heed to them, or to the service they were upon. To remedy this evil, Mr. Smeaton ordered a large figure of the lighthouse to be painted on the sails of the boats, and the men were also furnished with a stamped silver medal, that, while on shore, they might still have a token of the service to which they belonged. Another hinderance to the work arose from the fear of the French privateers, which was entertained to such an extent by the Portland workmen, that at one time they were almost afraid to stir out with their cargoes. Mr. Weston immediately applied to the Admiralty for a convoy, to accompany any vessel that might be ready to sail from Portland. This was repeatedly promised, but as no convoy ever arrived, two

vessels managed to venture out, and carry a fresh supply of stone, taking back to Portland the moulds for all the stones that could be possibly wanted in the course of the ensuing summer.

These moulds were the work of much time, and met with hinderances which must have sadly retarded the indefatigable architect. "After they were completed," says Mr. Smeaton, "the next thing was to procure a room, upon the floor of which we could lay them together, and, by laying down chalk lines, form the rest of the pieces that were wanted to make up each course, to which they formed, as it were, the *Roots*. This requiring a larger room than any we had at our command, I applied to the Mayor of Plymouth for the use of the floor of the Guildhall; but I was absolutely refused, on pretence that the chalk lines would spoil the floor! I afterwards applied for the Assembly-room, but there I succeeded no better. These unexpected rubs were not, however, insuperable, for by removing a partition between two rooms, which were the garrets of our cooper, I got a room large enough to hold each course at twice; and to this, though attended with a considerable addition of trouble, yet as it would only occur in the third, fourth, fifth, and sixth courses, I determined to submit, rather than expose myself to any more denials." The first year of the undertaking was occupied in forming the sloping sides of the rock into benches, more regularly than appears to have been done upon Mr. Ruderdy's plan, and into which the stones were let, in a dove-tailed form. At this period, the top of the House rock was somewhat higher than the rise of spring-tides, but it was so far levelled, that the first entire course of the present building is nearly upon a level with the high-water mark of spring-tides. In the course of the ensuing winter and following spring, arrangements were made for proceeding with the building operations. A large stock of materials had been provided, and various experiments on cements were made by Mr. Smeaton, with limestones from different parts of the coast, which enabled him to conclude, that a mixture of lime from Abershan, in the British channel, and puzzolana earth from Italy, was the proper mortar for his building. A stock of oak trenails was provided for fixing the newly-laid stones to the rock or to the course below, which, with the system of dove-tailing and joggling, prevented them from being carried away before the mortar took "band," as it is called, or while the respective courses were in an unfinished state.

Things being thus in preparation for the operations of the second year, the attending large store-vessel, with a floating light, called the Neptune Buss, was moored in her place near the rock. In performing this operation, as the person who took the most responsible position, laid himself open to the risk of "being cut in two by the chain, or carried overboard by it;" "the post of honour," says Mr. Smeaton, "naturally devolved upon me, as I always made it a rule not to put another upon doing what I was afraid to do myself. I therefore attended to the getting in of the eleven links of the chain, applying the pieces of wood till we came to the great swivel of the bridle-chain, and though this took some time, and left room for serious pause, yet the consideration of having previously tried the chain by a far greater strain than it was ever destined to bear, prevented these reflections from making me uneasy."

On the 12th of June, 1757, the foundation stone, with the date of the year upon it, was laid, and although it weighed two tons and a half, it was thought necessary to secure it to the old stancheons until the evening tide, when it was fitted, bedded in mortar, trenailed down, and completely

fixed, all the outward joints being coated over with plaster of Paris to prevent the immediate wash of the sea upon the mortar. By much perseverance the third entire course, above the top of the rock, was completed by the last day of September, with which this season's work was successfully closed. Mr. Smeaton was forcibly reminded of the important necessity of his work while engaged in it, for on the 3rd of July of this year, in the night, between eleven and twelve o'clock, the watch upon the deck of the Neptune espied a sail upon the rocks; and a yawl was instantly sent to her relief, which soon returned with the whole crew of a vessel of 130 tons burden, returning from Dartmouth with ballast. "As there was no stress of weather," says Mr. Smeaton, "at that time to drive them upon the rocks, we could not but wonder how they got there; but we were told that not knowing exactly where they were, they took the rocks to be so many fishing boats till it was too late to clear them; and that on the vessel striking, she filled so quick that the boat floated upon the deck before they could get into it. The vessel sat almost upright upon the rocks, and the masts remained standing the whole of the day; but in the night following it was wholly beaten to pieces. Her crew, consisting of seven hands, having been refreshed on board the Neptune, the next day rowed off in their boat to Looe; and as we had not been on shore since the 8th, I took the opportunity of returning to Plymouth in a Cawsand fisherman, who came with an intent to pick up something from the wreck; in which however he was disappointed."

The numerous shipwrecks that occurred on this dangerous reef of rocks were quite a source of revenue to the inhabitants of the little fishing coves on the coast, and one which they now happily have no longer the facility of earning.

THE SKYLARK.

BIRD of the wilderness,
 Blithesome and cumberless,
 Sweet be thy matin o'er moorland and lea!
 Emblem of happiness,
 Blest is thy dwelling-place—
 Oh, to abide in the desert with thee!
 Wild is thy lay and loud
 Far in the downy cloud,
 Love gives it energy, love gave it birth!
 Where, on thy dewy wing,
 Where art thou journeying?
 Thy lay is in heaven, thy love is on earth.

 O'er fell and fountain sheen,
 O'er moor and mountain green,
 O'er the red streamer that heralds the day—
 O'er the cloudlet dim,
 O'er the rainbow's rim—
 Musical cherub, soar, singing, away!
 Then, when the gloaming comes,
 Low in the heather blooms,
 Sweet will thy welcome and bed of love be!
 Emblem of happiness,
 Blest is thy dwelling-place,
 Oh, to abide in the desert with thee!

JAMES HOGG.

THE
HOME FRIEND;

A WEEKLY MISCELLANY OF AMUSEMENT AND INSTRUCTION

PUBLISHED EVERY WEDNESDAY,
BY THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.
No. 52.] AND SOLD BY ALL BOOKSELLERS. [PRICE 1*d.*

THE FOURTH AND LAST HARVEST OF SYRIA.



THE MOWSOON IL ZEITON—OLIVE HARVEST.

THE wind is rapidly veering round to the east; the vineyards have been left to solitude and the wild boar and jackal; a yellow tinge falls upon the trees, and the autumn is deep in leaf! "Blessed be the name of God for ever and ever; for wisdom and might are his, and He changeth the times and the seasons." (Dan. ii. 20, 21.)

Such be our prayer and thanksgiving as we hie forth once more to the harvest-field, this time to witness the poor peasant reaping wealth from the

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treasures that are yielded him by the olive-trees, that fatten upon the rich soil of the land. The tops of the loftiest mountains are already capped with snow, and the breeze that blows over them hints mysteriously of winter. Oxen, released from the plough, are feeding greedily upon the leaves of the mulberry, for those trees have long since sprouted again, and both leaf and fruit have arrived at maturity, unheeded, uncared for by the silkworm proprietors, whose stock of eggs lie torpid, and will remain in that condition many months yet to come. Yet as the fury of the winter gales will shortly strip all trees, save evergreens, of their verdure, the peasant lads, who tend the cows and oxen, turn them loose into their masters' plantations, and, mounting up mulberry-trees, strip bough after bough of the leaves, carefully avoiding to injure the branches, which next year will indicate the early spring by a vast profusion of tender green buds. Again our path leads by the mountain side, but this time we mount not high, neither is our journey more than half-an-hour's duration. Rapidly we cross the even fields, then up a gentle elevation, and here, under the shade of loftier hills, is the peasant's Zeitoonia, or olive garden. There are no houses, no huts, no signs of human habitations. High up among the branches are the now deserted nests of the goldfinch, and, save the dove and the house-sparrow, all the feathered tribe have winged their way southward; large flights of crows are passing overhead, cawing discontentedly, already driven from their mountain haunts by the severe cold and snow, and the peasant, seeing these, predicts the near approach of winter, and shouts to his companions and helpers that there is no time to be lost, and that all must work heartily and set their shoulders to the wheel.

Of the antiquity of the olive-tree, and of the oil extracted from the olive, we have plentiful proof in the holy Scriptures. When the waters of the flood abated, Noah sent forth the dove: "And the dove came in to him in the evening; and ~~in her~~ ^{in her} mouth was an olive leaf." (Gen. viii. 11.) This was 2349 years before Christ, or 4201 years from the time we are writing; and though we cannot clearly fix the date of the invention of oil, it must have been a common, as well as a requisite, article of every-day household consumption in the days of Isaac, since we find that Jacob was provided with oil (doubtless by the tender, watchful care of his mother) in his flight from his father's house to Padan: "And Jacob rose up early in the morning, and took the stone that he had put for his pillows, and set it up for a pillar, and poured oil upon the top of it." (Gen. xxviii. 18.) And this carries us back 2000 years a.c., constituting also a certain proof of oil having been early used in the religious ceremonies of the East. But whilst our thoughts have thus travelled speedily through the sacred pages of holy writ far back into centuries, the peasants and their young men and hirelings have mounted upon the olive-trees—the women and children are all furnished with long sticks, crooked at the end—and the business of the day commences. A sound is heard as of the rustling of a sudden tempest amongst the branches of the trees; this is the men shaking the ripe fruit from the boughs. There is a pattering on the earth like the noise of a heavy summer shower: this is occasioned by the rapid fall of the fruit on the mats that have been stretched out beneath the trees to catch them. Some olives still obstinately adhere to the branches; part of them are skilfully hooked down by means of the long poles; part still remain, and these are the portion of the gleaner, the stranger, and the poor. "As the shaking of an olive-tree, two or three berries in the top of the uppermost bough; four or five in the outmost fruitful branches thereof." (Isaiah

xvii. 6.) This done, the shaken trees are quitted and fresh ones climbed up upon, and the same operations gone through. However poor the season's crop may prove to be, the peasant never returns to seek for more fruit from the trees he has once visited; this would be *Uktai!* a sin! for "When thou beatest thine olive tree, thou shalt not go over the boughs again; it shall be for the stranger, for the fatherless, and for the widow." (Deut. xxiv. 20.) However great the temptation, the poor peasant seldom deviates from the express commands contained in this quotation, and perhaps none adhere more rigidly to it than the Turks themselves. The houseless and the desolate are not long in following on the footsteps of the reapers of the harvest: long before mid-day, the trees that have been visited and left are beset by these unfortunates, and even when they have done with them, there yet remain berries so situated as to elude the possibility of being gathered without endangering the safety of the climber, and considerably damaging the trees; for the branches of the olive are so frail and brittle that, except the very stoutest, few will sustain the weight of even a child without yielding and giving way; and, as a matter of course, each branch, however small, is reckoned of intrinsic value, from the worth of the quantity of berries it may produce. The business of shaking and beating the trees is very soon accomplished, as the separate plantations are comparatively small, though several of these may be the property of one individual. Even the gleaners have completed their gatherings long before the sun sets in the west; but there is yet much occupation, much that is necessary to be accomplished, before the evening closes in; and the peasant, remembering that the days are of very short duration, contents himself with crunching a bit of bread and a morsel of cheese, whilst he superintends the others (who are also employed masticating) in the grand labour of the day, viz., that of sorting the gathered berries for the purposes for which they are destined. Such as are fully ripe and rather on the turn are set aside to be converted into oil: those again that have barely attained to maturity are collected as best suited for edible purposes. When this division has been effected, then large *houorges*, or sacks, are flung across the wooden pack-saddles of the mules and donkeys; the mats on which the sorted olives are piled up are carried off and emptied into these bags, any want of weight to exactly poise them being speedily counterbalanced by stones and pebbles; and when all are thus disposed of, and the beasts all laden, then the peasant resumes his staff and the line of march, speedily followed by all his helpmates; and we, mounting our nags, close up the rear, sometimes astonishing the natives with some snatch from one of our, to them, outlandish ballads; sometimes being astonished ourselves by the frightful contortions of face and outrageous yellings of the peasant who is supposed to be singing.

The sun sets as we enter the village; the peasant carefully disburdens his beasts, and deposits his treasure safe within the covering of his cottage; we gallop on a few hundred yards to our own humble domicile, and the night sets in stormy from the west. Heavy gusts moaning through the leafless trees—torrents of rain—lightning, and the murmurings of distant thunder—a lull with the angry voice of the billows coming softly from afar, and then sleep and oblivion.

The morrow breaks with the sun bright and glorious, but cold without, for it has been freezing all night, and the water in the ditches and duck-ponds are coated over with a thin sheet of ice. Woodcocks have come down from the mountain; and the hyæna, ousted from his lofty lair by

heavy falls of snow, prowls about the habitation of man, in search of stray kids, or even stray children. The villagers are bustling about with evident anxiety depicted in their faces; they are anxious to finish off and get everything comfortably housed in-doors before the intense cold and frosts sets in. The women are arranging large jars, and pots, and pans, and mats, in the sun; and the peasant his "lamps, and his tongs, and his snuff-dishes, and all the oil vessels." (Num. iv. 9.) When all is prepared, the Papas, or priest, accompanied by laymen and elders of the village, passes through from house to house, sprinkling holy water on the threshold of the houses, and uttering benedictions in the words of comfort that Moses spoke to the Israelites: "The Lord thy God love thee, and bless thee, and multiply thee; he will also bless the fruit of thy womb, and the fruit of thy land; thy corn and thy wine, and thine oil; the increase of thy kine, and the flocks of thy sheep." (Deut. vii. 12, 13.) After this, the olives destined to be converted into oil are carried and heaped up in a hollow stone, or grinder, very primitive in its construction, which works much upon the principle of a ship's capstan, that is to say, it revolves upon a stone, or, in some cases, a polished iron pivot, and the berries, falling into the cavities, become soon converted into oil; all the fatness being squeezed out and flowing into a large stone reservoir at the bottom, whence again it is drawn off by a cock and poured into earthen jars, which are not porous, and which have been well glazed in the interior. This method of bruising the berry is a slight improvement upon the system common amongst the Jews, 1491 years before Christ, when Moses was directed to "command the children of Israel that they bring thee pure oil olive beaten for the light, to cause the lamp to burn always." (Exod. xxvii. 20.) Beating here signifying pounding with a rude pestle and mortar. Two men are continually employed heaving on the bars that winds round this oil grinder; and when all the olives are squeezed out, and the oil poured into jars, then the refuse is collected and thrown into caldrons half full of water. This water is now boiled over a slow fire and then left to cool; whatever oily matter may remain in the squeezed husks floats to the surface of the water, and bits of fine wool are used to absorb this oil, and then wrung into jars; this inferior oil is used solely for burning. When the oil is first made it has a thick, dark green, muddy appearance; after it has settled for a few days, the sediment sinks to the bottom, and the oil becomes of a transparent gold colour. It is now removed carefully, and placed upon elevated forms in the cottage; the tops of the jars are carefully cemented, one only being left open to serve as a proof for purchasers to see and taste. "And the taste of it was as the taste of fresh oil." (Num. xi. 8.) Meanwhile the women have been actively employed in preparing the winter supply of olives, in salt and water, and olives in olive oil. Large ewers of strong brine are placed in the sun and filled with green olives: this brine is changed every twelve hours for three successive days, and then the olives are taken out and well washed in several basins of pure spring water; they are then put into empty jars, which are filled up with a weak dilution of salt and water, and in one or two small jars they are covered over with oil; this to serve as a treat on high days and holidays. When all these very necessary jobs have been completed, then the peasants invite their friends and neighbours, and set before them huge platters of flour, first boiled into a paste, and then mixed with honey or dhips (grape juice) and new oil. When fresh butter is substituted for oil, this mixture constitutes a by-no-means contemptible dish.

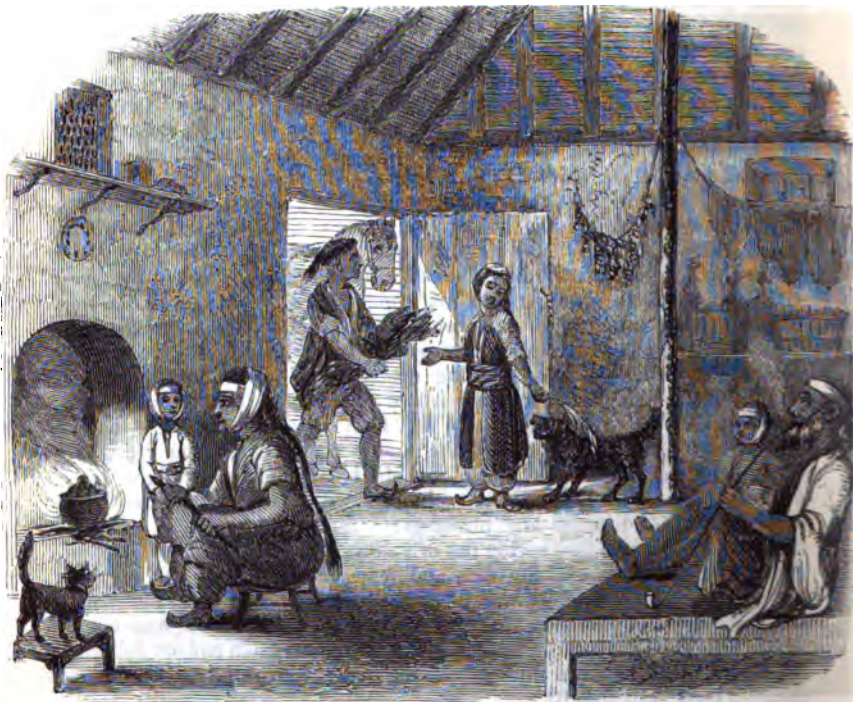
Ezekiel refers to this custom: "Thou didst eat fine flour and honey and oil, and thou wast exceedingly beautiful." (xvi. 13.)

The last harvest of the year has now been gathered in; but in the intervals that have elapsed between each season, the peasant and his family have been occupied by many little incidental jobs, into which we have had no time to dip, but of which we may here take a brief survey. Whilst the silk was being reeled off, chickens, and ducks, and goslings, were hatched, and the barley and maize harvests gathered in for their more particular nourishment. The fig-trees have yielded an abundant crop, and the women have been careful to dry a sufficient stock, to meet all the wants of the long winter season. Fish have been caught and salted; eels pickled in oil; chillies and cucumbers preserved in vinegar; apricots boiled down to paste, and dried in thin layers in the sun; lemons buried in soft sand to preserve them; peas dried for use; love apples, or tomatoes, boiled down to a mash, and placed under heavy stones, there to effectually dry, to serve for seasoning soups or ragouts in the winter; vegetables preserved in a dozen various manners; spices, and mint, and sage, and garlic, and onions, and pepper, and salt, are collected at the proper season; charcoal heaped up in an empty box; firewood piled up under the elevated divans on which the peasants sleep, or fenced up in a corner for the cocks and hens to roost upon. The speckled cow and the black cow have calved; the sheep are full of promise, and young kids are plentiful; these are all taken and tied up in the empty silkworm kokhs, where the absence of grass is well supplied by barley, straw, leaves, and the refuse of the silkworms manure, &c. The poultry are enticed to come home early by being fed at stated periods close to the door; and when all these arrangements are completed, the peasant, like a wise general, retires into his fortress, being well supplied with ammunition to resist the long and vigorous siege of winter, whose trumpeters are already sounding an advance, and shouting madly from the hollow caves and chasms of the mountains for their troops—hurricane, tempest, hail, snow, rain, thunder, whirlwind, lightning, fog, frost, gale, and tornado—to pour on destruction. Let them come! the door is well secured, the fire blazes up pleasantly on the humble hearth, and the blessing of the Almighty overshadows the humble cot of the Syrian peasant. Who can gainsay that Syria is a land full of promise and blessings? "A land of brooks of water, of fountains and depths that spring out of valleys and hills. A land of wheat, and barley, and vines, and fig-trees, and pomegranates; a land of oil olive and honey; a land wherein thou shalt eat bread without scarceness, thou shalt not lack anything in it; a land whose stones are iron, and out of whose hills thou mayest dig brass. When thou hast eaten and art full, then thou shalt bless the Lord thy God for the good land which he hath given thee." (Deut. viii. 7—10.)

The peasant is persuaded of the truth of all this, as he sits, pipe in hand, after a hard day's work, and, with the youngest child seated on one knee, takes a mental survey of the contents and the comforts of his cabin. He has abundance of wheat, and burghul, and rice, and flour, and salted butter, and oil, and olives, and cheese, in store; there is no fear of his being starved out of his garrison, even though he were obliged to keep the door locked for the next ten months. But besides these, he has baskets full of dried figs, and raisins, and preserved apricots, and walnuts, and almonds, and some boxes of sweetmeats; he has large bottles of wine, and some spirits, and spirits of wine (the latter in case of sprains); then he has mountains of onions and strings of red chillies and garlic; pickles innumerable; and many other little etceteras and luxuries; and he remembers that his poultry-

yard is well stocked to supply him with eggs and fowls; kids and lambs plentiful; woodcock, wild duck, and other game in season; gun, and gun-powder and shot, at hand; his horse, and mule, and donkey, well housed and fed; himself and family in excellent health and prospering; and when he thinks and feels all this, his heart leaps with joy again, and he remembers with grateful thanksgiving that beneficent Creator and preserver "who maketh me to lie down in green pastures, and leadeth me beside the still waters." (Psalm xxiii. 20.)

"The heaven was black with clouds and wind" (1 Kings xviii. 45), and the peasant's son, who has been to the mountains to gather wood for fuel, seeing these indications, "would hasten his escape from the windy storm and tempest." (Psalm lv. 8.) The accompanying illustration sees him just arrived at his father's door, wearied and cold; and he is shouting lustily to the



inmates to come forth and open the door, and assist him in disburthening the poor horse before the night sets in and the tempest commences. The trees are all leafless, the clouds murky and charged with damp, and the snow lies thick on the mountains; but inside the cottage, humble though its appearance, all things betoken comfort and contentment. The father of the family is seated with his pipe and his infant, patiently waiting for his substantial evening meal; the mother is seated on a low stool close to the fire, breaking pieces of firewood over her knees, to make the pot boil the quicker; her youngest son is looking on in hungry expectation; the cat, urged by a love of warmth and keen appetite, is watching the proceedings with tail erect in air, purring its contentment loudly; the dog rushes barking to the door, whilst the eldest daughter, who is opening it to

go and help her brother, playfully beats away the watchman with a switch. If we could penetrate with our eyes into the darkest corners, we should see all the poultry roosting for the night; as it is, we occasionally have warning of their vicinity when any sudden movement in the room rouses them from their slumbers, and the hens cackle forth their astonishment and discontent. The horse is unloaded, and then carefully rubbed down and his legs washed and dried, and, being supplied with food, is locked up for the night. The fuel is then carried in and thrown in a heap on the floor; the son then goes out and washes his feet and legs, and then he comes in and has a dry by the fire. The door is closed for the night; the supper is served; all eat with relish and appetite, but none so voracious as the son. When he has taken the sharp edge off his hunger, he begins to get communicative; tells how the horse behaved; what neighbours he met, how much fuel he gathered; how many birds and hares he saw; borrows his father's gun for the morrow, and then goes to bed, not before hinting to his mother that, as he can now earn two piastres a-day (about one penny sterling), it is high time he ought to get a wife; the father and mother think so too, and so does the little sister, who is only thirteen, and is going to be married next month. The louder the wind roars, the more tempestuous the night outside, the more comfortable and happy are the inmates of the humble cottage. They have plenty of warm covering, and they wrap themselves cosily in these; and long before midnight, the dog, and the cat, and the fowls, and the children, and the young man and the maiden, and the peasant and his wife, are all fast asleep, and a glow of warmth diffuses itself from the embers of the wood-fire. The tempest rages outside, but "Blessed be the name of God for ever and ever, for wisdom and might are his, and He changeth the times of the seasons."

THE EDDYSTONE LIGHTHOUSE.—No. III.

IN the December of this year a violent storm drove the Neptune from the moorings, and obliged it to drive into Plymouth; a reward of 50*l.* was offered for the mooring-chains, but, to prevent loss of time, a new set was ordered at Blackwall, as, even if the others were found, a spare set was always desirable. The fishermen were accused about this time of cutting away the buoys over the anchor of the Neptune for the sake of stealing the cork for their fishing-nets and crab-pots; and such disasters, with various accidents to the vessels so near the rock, retarded the operations in the spring of 1758, so that it was not until the 2nd of July that the work was again commenced. By the 8th of August the solid part of the building was completed, which brought the work to the entrance door on the height of twelve feet above the rock. When the work had proceeded so far as to allow of a level platform, the satisfaction felt by Mr. Smeaton led him to walk to and fro with more complacency than care, for unguardedly making a false step, and not being able to recover his footing, he fell over the works among the rocks on the left side. The tide had then retreated, so that he ran no risk of being drowned, but in his fall he dislocated the thumb of his left hand. As no medical aid was to be procured he set it himself, and then returned to his duty; but it was more than six months before he recovered the full use of the injured member. By the latter end of September, in spite of the very boisterous weather which had prevailed, the twenty-fourth course, forming the top of the staircase and floor of the first apartment or store-room, was laid, and the work

having been continued till the beginning of October, the arched room of the storehouse was laid, on which Mr. Smeaton proposed to place a temporary light room, and thus the floating light, which had been moored by the Trinity Board for the last two winters for the direction of shipping, might have been dispensed with. But some conflicting interests in relation to the collection or property of the light duties being concerned, this proposition, which was made by the lessees of the light duties to the Trinity Board, was not acceded to, and the work was accordingly brought to a close for the season. The winter of 1758-9 was employed by Mr. Smeaton in London, where he prepared everything for the final work at the Eddystone the ensuing season; and he formed and made out designs for the iron rails of the balcony, the cast iron, the wrought iron, and the copper and plate-glass works for the lantern.

A violent storm occurred on the 9th of March 1759, which it was feared must have injured the unfinished edifice, as it had done great damage to the buildings and shipping at Plymouth; and as soon as it was possible, Mr. Jessop visited the works. He had the satisfaction of reporting to Mr. Smeaton that the work, both solid and hollow, had remained sound and firm, all the mortar having become quite hard, and that, in short, the work was in every part just in the situation in which it was left by the workmen in October.

The commencement of the work for the next and last season took place on the 5th of July. On the 21st of the same month the second floor was finished, and on August 17th the main column of the building was completed, containing in all forty-six courses of stone, and being seventy feet in height.

In form the lighthouse is a round building, gradually decreasing in circumference from the base up to a certain height, like the trunk of an oak, from which the architect states that he took the idea of its form. On the 24th the parapet-wall was finished, and this completed the masonry of the lighthouse. By unremitting exertions on the part of both the architect and his workpeople, the balcony rails, the lantern with the cupola and gilt ball, the lightning-conductor, and in short all the remaining parts of the lighthouse, with the stores and necessary furniture, were set in their places by the 16th of October, on which day a light was once more exhibited in that dangerous locality, the Eddystone rocks.

In the former lighthouse the kitchen had been in the upper room, doubtless because the funnel for the smoke would thus be shorter; but the beds for the keepers were now fixed above, and the kitchen, with its fireplace, below, while the copper funnel which now passed through the sleeping apartment prevented the beds and bedding from becoming damp, as they did by the former plan. The whole edifice, however, was much more impervious to moisture than that of Mr. Rudyerd's, as the granite employed had the well-known quality of resisting humidity. In the upper room were fixed three cabin beds, each to hold one man, and having three drawers and two lockers, to hold his separate property. In the kitchen, besides the fireplace and sink, were two settles with lockers, a dresser with drawers, two cupboards, and one platter-case. In the lantern a seat was fixed to encompass it all round except the doorway, and this served alike to sit on, to stand on, to snuff the candles, and also enabled the men to look through the lowest tier of glass panes, at distant objects, without having occasion to go on the outside of the lantern into the balcony. Besides the windows of the lantern, the building had ten others, two in the store-room, and four in each of the other rooms. In fixing the cross-bars for these, an accident occurred which had nearly proved fatal to

Mr. Smeaton, just as his arduous task was done, and which we will give in his own words:—"After the boat was gone, and it became so dark that we could not see any longer to continue our occupations, I ordered a large charcoal fire to be made in the upper store-room, in one of the iron pots we had used for melting lead, for the purpose of annealing the blank ends of the bars. Most of the workmen were sitting round the fire, and by way of making ourselves comfortable, and to screen ourselves and the fire from the wind, the windows were shut; and, as well as I remember, the copper cover or hatch, put over the man-hole of the floor of the room where the fire was: the hatch above being left open for the heated vapour to ascend. I remember to have looked into the fire attentively to see that the iron was made hot enough, but not over heated. I also remember I felt my head a very little giddy; but the next thing of which I had any sensation or idea, was finding myself on the floor of the room below, half-drowned with water. It seems that without being further sensible of anything to give me warning, the effluvia of the charcoal so suddenly overcame all sensation that I dropped down upon the floor; and had not the people hauled me down to the room below, where they did not spare for cold water to throw in my face and upon me, I certainly should have expired on the spot."

So valuable a life was thus mercifully spared, and Mr. Smeaton was permitted to have the satisfaction of deriving well-earned gratification in the success of the beautiful monument of skill and industry which he had raised.

He slept in it, viewed it from sea and land, and appears to have made every observation that so intelligent and clever a man might be expected to make. From the account he gives of its appearance after a storm, we are led to believe with him, that Mr. Winstanley's description of a similar view is not at all exaggerated. "At intervals of a minute, and perhaps two or three, an overgrown wave would strike the rock and the building conjointly, and fly up in a white column, enwrapping it like a sheet, rising to at least double the height of the house, and totally intercepting it from sight; and this appearance being momentary, both as to its rising and falling, one was enabled to judge of the comparative spaces alternately occupied by the house, and by the column of water in the field of the telescope."

The year 1759 closed with such very stormy weather that the lighthouse-keepers had all their stock of hardihood and courage fully put to the test. On the first evening that the light was kindled it blew very hard, and for some nights, both before and after, the sea so constantly washed over the lighthouse that they were obliged to keep the fronts of the windows not only shut, but to stuff the joints with oakum, the better to resist the great press of the water. But upon the whole they declared that they had been warm and dry. When the sea broke up the highest they had experienced a sensible motion, something like what all had observed from the holes in the rock in hard gales of wind. Mr. Smeaton says, "that during a great sea about the rocks he could, by resting steadily against the wall of the lantern, perceive a sensible motion from the action of the sea. This I did not wonder at, having felt a steeple sensibly move by the ringing of bells; but I was quite surprised to find that such heavy seas as now rolled over the adjacent rocks, without touching the building, produced a motion nearly as perceptible. This, however, fully convinced me that the Eddystone rocks have a great degree of *elasticity*."

The continued recurrence of storms, however, seems to have a little

damped the courage of the light-keepers ; for after one of unusual violence, when a boat could reach them, Henry Edwards sent a letter to the manager of the works, telling him that for twelve days the sea ran over the house in such a manner that they had been unable to open either the door of the lantern or any other door. "The house did shake," says the forlorn light-keeper, "as if a man had been up in a great tree." Being both elderly men, they suffered, in consequence, from rheumatism—at least so we should conclude from their saying, "that being almost frightened out of their lives, the fear seized them in their backs, but rubbing them with oil of turpentine gave them relief." After some time the light-keepers became attached to the locality in spite of its seclusion from the rest of the world, and found it both a healthy and comfortable abode. One of the workmen engaged in its construction volunteered for the situation ; and although the pay was but 25*l.* a-year, continual applications were made to the proprietor for the offices, and voluntary vacancies seldom occurred. Mr. Smeaton mentions several men who had served there to his knowledge ten, fifteen, and twenty years. One of these became so much attached to his residence on the rock, that for two summers he gave up his turn for a month's holiday on shore, and wished to have done so on the third, but was over-persuaded to leave the rock. While residing on it he had been a steady, sober man ; but he had no sooner reached the shore than he went to an alehouse and remained in a state of intoxication during the whole month. He was in this condition conveyed back to the lighthouse, where, after lingering two or three days, he expired.

At the period when the Eddystone was first lighted, such was the state of the lighting-house apparatus in Great Britain, that a feeble light from tallow-candles was all that illuminated a structure so noble. In 1807, when the property came into the hands of the Trinity House, argand-burners, and paraboloidal reflectors of silvered copper were substituted for the chandelier and its candles.

The last stone set in the building was that over the door of the lantern, which has on it the following inscription. On the east side are the words—

"24th August, 1759,
Laus Deo ;"

and round the upper store-room, upon the course of granite, under the ceiling, are the words—

"Except the Lord build the house,
They labour in vain that build it."—Psalm cxxvii.

The year 1762 was ushered in with stormy weather—a tempest of great fury raging in January, which the new erection so well stood that in future no apprehensions of its safety were entertained. This storm caused much loss of life and property. At Plymouth, damage to the amount of 80,000*l.* occurred in the harbour and Sound ; and a friend of Mr. Smeaton's wrote him a letter of congratulation on his building having been spared in the general devastation. The sea is described as coming in with such fury over the bar-bican wall at Plymouth, "as to sweep away with it the parapet, below the foundation, and five persons then standing upon it." The new Laurmy pier, which had been just built by Government, was also swept away. In the short space of three hundred yards six fine merchantmen were wrecked, and literally beat to pieces. Nine men of war in the Sound were greatly injured, and the sea was so agitated, that the froth is described as "flying clean over the walls of the garrison, and in such quantities, that in one situation a sentinel was compelled to leave his post." "In the midst of all this horror and confusion," writes the friend of Mr. Smeaton, "I

could not but feel the utmost anxiety for the fate of the Eddystone. Several times in the day I swept with my telescope from the garrison, as near as I could imagine, the line of the horizon ; but it was so extremely black, fretful, and hazy, that nothing could be seen. But the next morning, early, I had great joy to see that the gilded ball had triumphed over the fury of the storm ; and such a one as before I had no conception of. It is now my most steady belief, as well as everybody's here, that its inhabitants are rather more secure in a storm, under the united force of wind and water, than we are in our houses, from the former only."

As soon as a landing could be effected it was found that all the damage sustained from this tremendous storm by the building was that the ladder had been carried away, and some of the putty, cracked by the last summer's heat, washed off from the lantern ; but not a single pane of glass was broken. From this casualty the lantern was protected by the cornice, which, when the sea rose to the top, "blanched it off like a sheet." The men declared that the sea went bodily over the top, for that it came through the vents, and filled the sockets of the candlesticks. They declared, too, that they felt no uneasiness, as the house had not been affected in any other than the usual way. As a confirmation of this, the letter ends by a remark, "That one of the articles—besides sugar, flour, and other stores—landed at the house, was a gallipot of putty, to repair the only derangement the house had suffered."

As a habitation, the lighthouse, singularly exposed and situated as it is, is not only remarkably healthy, but really comfortable to a degree that renders it an eligible residence to elderly seamen, who do not consider their abode there as any infringement upon their liberty, because they well know it is in their own power to put a period to it whenever they choose. The extremes of cold or heat are not felt by the inmates ; water was never known to freeze, and the fine sea-breezes prevent any inconvenience from the ardent rays of the sun.

The nature of the stone, and the small dimensions of the House rock, are adverse to the growth of marine fuci, or to the habitation of animals. Of the former, only the smaller sorts of seaweed are observed, which, in continued storms, appears to acquire a growth upon the western side of the lighthouse, of about twenty feet up the building. The only shell-fish are the barnacle, and a few limpets of small size ; these last might increase both in number and bulk were they not apt to be destroyed for bait before they are matured in growth. In very moderate weather a few young coal-fish are caught by the light-keepers ; and from their boat, in the vicinity of the rock, the fish common upon the coasts of Cornwall and Devonshire may be procured in abundance.

THE DOGE OF VENICE.—No. II.

FOR six weary years the unfortunate Jacopo pined in his Candian prison. Torn from his wife, his children, his father, and his country, he almost sank beneath his accumulated load of wretchedness. The one longing, restless desire of his heart, all those weary years, was to return to his beloved home. This occupied his thoughts by day, his dreams by night. With folded arms he would stand and gaze over the waters, hour after hour, and day after day, to see if perchance a vessel might be coming with tidings of mercy. But none such came,—and at last, reduced to despair, the unhappy exile resolved on a desperate and dangerous expedient. He

wrote a letter to the Duke of Milan, requesting his interference and intercession with the Venetian Government in his behalf. He knew this was considered a great crime by the State, but it was his last hope of seeing Venice again. This letter he purposely left where it was seized by the spies, who never ceased to watch him, and by them conveyed to the Council of Ten.

Jacopo was instantly recalled to Venice, to undergo his trial for this new offence. And gladly did he obey the summons! His love for Venice was an intense love. Though he knew that tortures and perhaps death awaited him there, he cared not, he faltered not, his only desire was to behold once more his native land; and he preferred encountering the worst vengeance of his foes to dragging out a miserable existence in Candia.

Swiftly over the waves flew the vessel which bore the exile to his home—and, alas! to his prison also.

For the third time was the unhappy doge compelled to preside at the persecution of his son; and although Jacopo openly avowed that he had written the letter for the sole purpose of being recalled to Venice, to answer for this infringement of the law—that he had never for an instant contemplated its reaching the Duke of Milan—yet again was the wretched father a witness of the agony inflicted on his hapless son, in order to extort from him a denial of the act he had previously acknowledged. Poor Jacopo remained firm to the last, declaring that such only was his motive for writing the letter; but in vain he so manfully endured—in vain he asserted his innocence. Once more was the sentence of perpetual banishment pronounced on him. Again did those cruel words issue from the lips of the heart-broken father, with the additional severity that the first year of his exile was to be passed in a prison.

Oh! what were all the honours of the doge to him in that moment of misery!

One interview was the unhappy young noble allowed with his family; one short hour to bid them all a last farewell.

Guarded by two officers, Jacopo Foscari was brought from his dungeon, across the Bridge of Sighs, to one of the splendid apartments in his father's palace. There he met his beloved wife and children—a sad, sad meeting! Jacopo's pale cheek spoke too plainly of the tortures he had endured, and the weeping Marina, as she gazed upon him, could not for some time suppress her grief. At length in a voice almost inarticulate from emotion, she said, "My beloved husband, we part no more!"

"No more!" said Jacopo starting, "know you not the decree of the council, Marina?"

"Alas! too well, my Jacopo. But from henceforth your exile shall be mine also."

"My true wife! my only friend on earth! this is indeed a taste of happiness in my cup of misery! But will the Ten permit this? Have they indeed so much mercy?"

"They have granted my earnest request, Jacopo, but mercy they have none."

"And our children, Marina? our dear children?" said Foscari, fondly caressing his little ones, as they stood around him.

"They will be cared for by the doge," replied their mother, looking on them with tearful eyes; "the *mercy* of the Ten does not extend so far as to permit them to accompany us. Oh, Jacopo! the wild beasts of the forest are more feeling and pitiful than the cruel Ten!"

"Hush, my beloved! we may be watched."

"And if we are, can they do more than they have done? Has not their malice reached its height?"

"They might withdraw the permission granted you, my Marina."

"Ah!" sighed Marina, "that would be my death-blow! They will tear my children from me, but I still shall live whilst I have you to live for, Jacopo."

"Do not send us away, dear mamma," said little Francesco, the youngest child; "let us go with you wherever you go! Papa, will you say that no one shall take us away, and then poor mamma will be happy?"

"My darling boy! would that I could say it!" was all that Foscari could reply, as he strained the prattler to his heart. The little fellow climbed up on his father's knee, and looked wistfully in his face.

It was hard to part from this, his youngest one—his loving, playful Francesco, who had scarcely known a father's care!

Mastering his emotion, Jacopo turned to the window, and looked out on the placid waves of the Adriatic. The noiseless city was reposing in the sunshine; nought was heard but the quiet plashing of the waters.

"Beautiful Venice!" exclaimed the young noble, "how truly, how fondly I love thee! This Adrian sea-breeze, oh! how refreshing is it, Marina! how unlike the hot gales of Candia! It gives me new life. Oh, Venice! how often have I skimmed over thy blue waters in my gondola, a happy, laughing boy! how many times have I, as a youth, breasted thy billows, a daring, fearless swimmer! And now thou dost banish me from thee for ever! And for nought, save too great love for my country."

"My innocent, my persecuted husband," said Marina, "think not of thy ungrateful country; have no regrets for Venice. I never wish to see it more."

At this moment the doge entered the apartment.

"My father!" exclaimed Jacopo, as he rose to meet him, "my beloved father!"

"My son! my last—my only son!" murmured the aged man, as he fell on Jacopo's neck; "my boy! my broken-hearted boy!"

"Father, I am innocent! believe me, thy Jacopo hath not disgraced the name of Foscari."

"Oh, my son! if thou knewest all!—never wert thou so dear to me as now, Jacopo,—and thou wilt go, and leave me desolate!"

"Not desolate, my father; these dear ones shall take my place; they shall be the solace and stay of your old age."

"Dear they are; as yours, doubly dear; but they will never be to me what my Jacopo has been," said the unhappy doge.

The sight of his beloved parent's grief—the thought that he was about to be separated from him for ever, and leave him a childless sorrow-stricken man—wrung Jacopo's heart. For the first time he asked for mercy.

"Oh, my father!" he exclaimed, "appeal to the council; they will show some forbearance, they will show some consideration for your grey hairs; Venice owes you much, they cannot, will not refuse you the boon you ask."

Then the noble old man endeavoured to exhibit some portion of composure.

"Such a request would be made in utter hopelessness, my son," he said, in a calm voice. "My duty to the State forbids me to urge it. Go, Jacopo, submit to the will of your country, and seek nothing further."

The long and exquisite pain he had endured without a groan or a mur-

mur—the sorrows he had undergone—the anguish of that moment,—quite unnerved the young Foscari.

“But they will relent in some years,” he said, as the tears rolled thick and fast down his cheeks; “O tell me I may come back again! let there be some point of time, however distant, to which I may look forward as the term of my banishment. Help me, father, I pray; plead for your son, your only son! Let me live in hope that I shall see my loved home once more.”

“Alas! my dearest son, it cannot be, nor can I ask it,” replied the doge. “Thrice have you been sentenced. It is not for me to trifle with the laws of Venice, or make light of its decrees. Submit my son; your father’s duty to the State is a paramount duty.”

The doge well knew that the Ten, while they gloried in his humiliation, would reject his petition with scorn.

But the self-restraint he had exercised proved too much for the enduring and broken-hearted old man. On retiring from his son’s presence he fell senseless in the arms of his attendants. And the unfortunate Jacopo, innocent of the crimes for which he had suffered so much, was reconveyed to his Candian prison, where, not long after, he was released from his sorrows by death.

The troubles of the Doge Foscari were not yet over. The groundless hatred entertained against him by Loredano, led him, as one of the council, to propose that he should be deposed. But even the Ten, ill-disposed as they were towards Foscari, hesitated to adopt such a measure. “He has grown grey in the service of the State,” observed one; “to depose him would be a poor return for his many years of unceasing labour.”

“It would be but a useless form,” said another; “his age and shattered health will soon release him from the cares of office.”

“Not soon enough,” replied Loredano; “he is too infirm and feeble to be at the head of the Venetian State.”

“But, Signor Loredano,” said an aged member, “it surely would be most inconsistent and contradictory to compel the Prince to abdicate, when we have twice refused to accept his voluntary resignation.”

“Tell him we accept it now,” replied Loredano; “let him give place to younger and more active men.”

“He has ruled well and wisely,” observed the youngest of the members, touched with some pity for the doge; “his reign has been a brilliant one for Venice. And he has suffered—suffered much. Let us not embitter yet more the short time that remains to him. Loredano! he is a desolate and broken-hearted old man.”

“He shows it not,” said Loredano; “he is hard and cold as marble itself. A prouder man never breathed.”

“He has a noble spirit,” was the reply. “To depose him will be to sign his death-warrant.”

The debate lasted long. To assist them in their deliberations, the Ten called in the aid of five-and-twenty members of the Great Council, and for eight days and nearly as many nights they sat in solemn discussion. The result of their protracted meetings was, that the Doge Foscari should be *requested* to resign his high command.

When the deputation, headed by the Chief of the Ten, waited on the aged prince for this purpose, he heard them with surprise, but with dignity and composure.

“Signor,” said he,—and he spoke as a noble prince—“you ask of me an

impossibility. When I twice before expressed my wish to abdicate, it was refused me, and not only refused, but you made me take an oath that I would never resign my office. I have sworn to die in the full exercise of my power as Doge of Venice. I cannot break my oath."

"Is this your answer, prince?"

"It is. You speak of my length of days, Signors,—remember, each day has been given to my country; I am ready to lay down my life for her, as I have laid down things far dearer than life. But my office as doge I hold of the whole Republic; if you see fit, you can appeal to the Great Council, and take their opinion. I have no more to say."

"And you will not resign, prince?"

"Never! I do not make vows to break them. You have heard my answer."

The deputation retired, disappointed. It was far from their intention, however, to subject themselves to the chances of debate in the Great Council; so, assuming a power they did not really possess, the Ten discharged Foscari from his oath, declared him to be no longer doge, assigned to him a pension of two thousand ducats, and ordered him to quit the palace within three days. The cruel Loredano enjoyed the barbarous satisfaction of presenting this decree with his own hand to the deposed prince. Foscari received it with calmness. "If I had imagined," said he, "that my old age was in any way hurtful to the State, never for one moment would I have placed my high dignity before my country's welfare; but my life not having been altogether useless to Venice, I would fain have consecrated to her the last moments of it. The act is passed—I obey it."

"He was deposed,—

He who had reign'd so long and gloriously
His ducal bonnet taken from his brow,
His robes stript off, his seal and signet-ring
Broken before him. But now nothing moved
The meekness of his soul."

The following day Francesco Foscari left the palace where, for so many years, he had lived and reigned a prince. As he was about to depart, it was suggested to him that he should retire by the staircase which led to the grand canal, and thus avoid the concourse of people assembled in the great square."

"No!" said Foscari, proudly; I descend by no other than the Giant's Stairs,—the selfsame steps by which I mounted, five-and-thirty years ago, to be elected doge. I was publicly elected, and I will be publicly deposed."

Accordingly, leaning on the arm of his brother, and supported by his staff, the aged noble slowly descended the Giant's Stairs. Once—only once—his arm trembled, and his voice faltered, as he murmured, "My boy! my Jacopo! thou hast been spared this!" Arrived at the foot of the staircase, he turned round, and giving a last look to the palace, exclaimed, "My services established me within your walls; it is the malice of my enemies which tears me from them. Farewell!"

The people of Venice much grieved when they heard of the deposition of the beloved and respected doge, but they dared not express their grief. Whatever pity they might secretly cherish for their wronged and humiliated prince, all show of it was silenced by a peremptory decree of the Council of Ten, forbidding any mention of his name, and annexing death as a penalty to disobedience.

On the fifth day after Foscari's deposition, Malipieri was elected Doge of Venice. The dethroned prince, now in his own palace, heard the great bell of St. Mark's strike out, announcing his successor. He was visibly agitated. "That sound!" he exclaimed; "I know it well—I heard it once before; it tolls for my Jacopo—my lost, my innocent Jacopo! My poor, poor boy!" His agitation increased, he vainly endeavoured to suppress it, and, bursting a blood vessel, in a few hours Francesco Foscari expired.

ESCAPE OF CHARLES II. AFTER THE BATTLE OF WORCESTER.

THE following narrative, said to be dictated by Charles II. to Pepys, then Secretary of the Admiralty, is taken from a MS. in cipher, which is in the Pepysian Library at Magdalene College, Cambridge.

After that the battle was so absolutely lost, as to be beyond hope of recovery, I began to think of the best way of saving myself; and the first thought that came into my head was, that, if I could possibly, I would get to London as soon, if not sooner, than the news of our defeat could get thither: and it being near dark, I talked with some, especially with my Lord Rochester, who was then Wilmot, about their opinions, which would be the best way for me to escape, it being impossible, as I thought, to get back into Scotland. I found them mightily distracted, and their opinions different, of the possibility of getting to Scotland, but not one agreeing with mine for going to London, saving my Lord Wilmot; and the truth is I did not impart my design of going to London to any but my Lord Wilmot. But we had such a number of beaten men with us of the horse, that I strove, as soon as ever it was dark, to get from them; and though I could not get them to stand by me against the enemy, I could not get rid of them now I had a mind to it.

So we, that is, my Lord Duke of Buckingham, Lauderdale, Derby, Wilmot, Tom Blague, Duke Darcey, and several others of my servants, went along northward towards Scotland; and at last we got about sixty that were gentlemen and officers, and slipped away out of the highroad that goes to Lancashire, and kept on the right hand, letting all the beaten men go along the great road; and ourselves not knowing very well which way to go, for it was then too late for us to get to London on horseback, riding directly for it, nor could we do it, because there were yet many people of quality with us that I could not get rid of.

So we rode through a town short of Wolverhampton, betwixt that and Worcester, and went through, there lying a troop of the enemies there that night. We rode very quietly through the town, they having nobody to watch, nor they suspecting us no more than we did them, which I learned afterwards from a country-fellow.

We went that night about twenty miles, to a place called White Lady's, hard by Tong Castle, by the advice of Mr. Giffard, where we stopped, and got some little refreshment of bread and cheese, such as we could get, it being just beginning to be day. This White Lady's was a private house, that Mr. Giffard, who was a Staffordshire man, had told me belonged to honest people that lived thereabouts.

And just as we came thither, there came in a country-fellow, that told us there were three thousand of our horse just hard by Tong Castle, upon the heath, all in disorder under David Leslie, and some other of the general

officers; upon which there were some of the people of quality that were with me who were very earnest that I should go to him and endeavour to go into Scotland, which I thought was absolutely impossible, knowing very well that the country would all rise upon us, and men who had deserted me when they were in good order, would never stand to me when they have been beaten.

This made me take the resolution of putting myself into a disguise. And endeavouring to get a-foot to London, in a country-fellow's habit, with a pair of ordinary gray-cloth breeches, a leathern doublet, and a green jerkin, which I took in the house of White Lady's. I also cut my hair very short, and flung my clothes into a privy-house, that nobody might see that any body had been stripping themselves. I acquainting none with my resolution of going to London but my Lord Wilmot, they all desiring me not to acquaint them with what I intended to do, because they knew not what they might be forced to confess; on which consideration, they, with one voice, begged of me not to tell them what I intended to do.

So all the persons of quality and officers who were with me (except my Lord Wilmot, with whom a place was agreed upon for our meeting at London, if we escaped, and who endeavoured to go on horseback, in regard as I think, of his being too big to go on foot), were resolved to go and join with the three thousand disordered horse, thinking to get away with them to Scotland. But, as I did before believe, they were not marched six miles, after they had got to them, but they were all routed by a single troop of horse; which shows that my opinion was not wrong in not sticking to men who had run away.

As soon as I was disguised, I took with me a country-fellow, whose name was Richard Penderell, whom Mr. Giffard had undertaken to answer for to be an honest man. He was a Roman Catholic, and I chose to trust them, because I knew they had hiding-holes for priests that I thought I might make use of in case of need.

I was no sooner gone (being the next morning after the battle, and then broad day) out of the house with this country-fellow, but, being in a great wood, I sat myself at the edge of the wood, near the highway that was there, the better to see who came after us, and whether they made any search after the runaways, and I immediately saw a troop of horse coming by, which I conceived to be the same troop that beat our three thousand horse; but it did not look like a troop of the army's, but of the militia, for the fellow before it did not look at all like a soldier.

In this wood I stayed all day, without meat or drink; and by great good fortune it rained all the time, which hindered them, as I believe, from coming into the wood to search for men that might be fled thither. And one thing is remarkable enough, that those with whom I have since spoken, of them that joined with the horse upon the heath, did say, that it rained little or nothing with them all the day, but only in the wood where I was—thus contributing to my safety.

As I was in the wood, I talked with the fellow about getting towards London, and asking him many questions about what gentlemen he knew. I did not find he knew any man of quality in the way towards London. And the truth is my mind changed as I lay in the wood, and I resolved of another way of making my escape; which was to get over the Severn into Wales, and so to get either to Swansea or some other of the sea-towns that I knew had commerce with France, to the end I might get over that way, as being a

way that I thought none would suspect my taking ; besides that, I remembered several honest gentlemen that were of my acquaintance in Wales.

So that night, as soon as it was dark, Richard Penderell and I took our journey on foot towards the Severn, intending to pass over a ferry, half-way between Bridgenorth and Shrewsbury. But as we were going in the night we came up by a mill, where I heard some people talking (memorandum, that I had got some bread and cheese the night before at one of the Penderell's houses, I not going in), and, as we conceived, it was about twelve or one o'clock at night, and the country-fellow desired me not to answer if anybody should ask me any questions, because I had not the accent of the country.

Just as we came to the mill, we saw the miller, as I believed, sitting at the mill-door, he being in white clothes, it being a very dark night. He called out, "Who goes there?" Upon which Richard Penderell answered, "Neighbours going home," or suchlike words. Whereupon the miller cried out, "If you be neighbours stand, or I will knock you down." Upon which, we believing there was company in the house, the fellow bade me follow him close ; and he run to a gate that went up a dirty lane, up a hill, and opening the gate, the miller cried out "Rogues, rogues!" And thereupon some men came out of the mill after us, which I believed were soldiers. So we fell a running both of us, up the lane, as long as we could run, it being very deep and very dirty, till at last I bade him leap over a hedge and lie still to hear if anybody followed us ; which we did and continued lying down upon the ground about half an hour, when, hearing nobody come, we continued our way on to the village upon the Severn, where the fellow told me there was an honest gentleman, one Mr. Woolfe, that lived in that town, where I might be with great safety ; for that he had hiding holes for priests. But I would not go in till I knew a little of his mind, whether he would receive so dangerous a guest as me : and therefore stayed in a field under a hedge, by a great tree, commanding him not to say it was I, but only to ask Mr Woolfe whether he would receive an English gentleman, a person of quality, to hide him the next day, till we could travel again by night—for I durst not go but by night.

Mr. Woolfe, when the country-fellow told him that it was one that had escaped from the battle of Worcester, said, that for his part, it was so dangerous a thing to harbour anybody that was known, that he would not venture his neck for any man, unless it were the king himself. Upon which Richard Penderell very indiscreetly, and without my leave, told him that it was I. Upon which Mr. Woolfe replied, that he would be very ready to venture all he had in the world to secure me. Upon which Richard Penderell come and told me what he had done. At which I was a little troubled ; but then there was no remedy, the day being just coming on, and I must either venture that or run into some greater danger.

So I came into the house a back way, where I found Mr. Woolfe, an old gentleman, who told me he was very sorry to see me there, because there were two companies of the militia foot at that time in arms in the town, and kept a guard at the ferry, to examine everybody that came that way, in expectation of catching some that might be making their escape that way ; and that he durst not put me into any of the hiding-holes of his house, because they had been discovered, and, consequently, if any search should be made, they would certainly repair to these holes, and that therefore I had no other way of security but to go into his barn, and there lie behind his corn and hay. So after he had given us some cold meat that

was ready, we, without making any bustle in the house, went and lay in the barn all the next day; when towards evening, his son, who had been prisoner at Shrewsbury, an honest man, was released and came home to his father's house. And as soon as ever it began to be a little darkish, Mr. Woolfe and his son brought us meat into the barn; and then we discoursed with them whether we might safely get over the Severn into Wales, which they advised me by no means to adventure upon, because of the strict guards that were kept all along the Severn, where any passage could be found, for preventing anybody's escaping that way into Wales.

Upon this I took resolution of going that night the very same way back again to Penderell's house, where I knew I should hear some news what was become of my Lord Wilmot, and resolved again upon going for London.

So we set out as soon as it was dark; but as we came by the mill again, we had no mind to be questioned a second time there, and therefore asking Richard Penderell whether he could swim or no, and how deep the river was, he told me it was a scurvy river, not easy to be passed in all places, and that he could not swim. So I told him that the river being but a little one, I would undertake to help him over. Upon which we went over some closes by the river side, and I entering the river first, to see whether I could myself go over, who knew how to swim, found it was but a little above my middle, and thereupon, taking Richard Penderell by the hand, I helped him over.

Which being done, we went on our way to one of Penderell's brothers (his house being not far from White Lady's), who had been guide to my Lord Wilmot, and we believed might by that time be come back again, for my Lord Wilmot intended to go to London upon his own horse. When I came to this house I inquired where my Lord Wilmot was—it being now towards morning, and having travelled these two nights on foot. Penderell's brother told me that he had conducted him to a very honest gentleman's house, one Mr. Pitchcroft, not far from Wolverhampton, a Roman Catholic. I asked him what news? He told me that there was one Major Careless in the house, that was that countryman, whom I knowing, he having been a major in our army and made his escape thither, a Roman Catholic also, I sent for him into the room where I was, and consulting with him what we should do the next day. He told me that it would be very dangerous for me either to stay in that house or to go into the wood,—there being a great wood hard by Boscobel; that he knew but one way how to pass the next day, and that was, to get up into a great oak, in a pretty plain place, where we might see round about us; for the enemy would certainly search at the wood for people that had made their escape. Of which proposition of his I approving, we (that is to say, Careless and I) went, and carried up some victuals for the whole day; viz., bread, cheese, small beer, and nothing else, and got up into a great oak, that had been lopped some three or four years before, and being grown out again very bushy and thick, could not be seen through, and here we stayed all the day. I having, in the mean time, sent Penderell's brother to Mr. Pitchcroft's, to know whether my Lord Wilmot was there or no, and had word brought me by him at night that my lord was there, that there was a very secure hiding-hole in Mr. Pitchcroft's house, and that he desired me to come thither to him.

Memorandum:—That while we were in this tree, we see soldiers going up and down in the thicket of the wood, searching for persons escaped, we seeing them now and then peeping out of the wood.

That night Richard Penderell and I went to Mr. Pitchcroft's, about six

or seven miles off, when I found the gentleman of the house, and an old grandmother of his, and Father Hurlston, who had then the care, as governor, of bringing up two young gentlemen, who, I think, were Sir John Preston and his brother, they being boys.

Here I spoke with my Lord Wilmot, and sent him away to Colonel Lane's, about five or six miles off, to see what means could be found for my escaping towards London; who told my lord, after some consultation thereon, that he had a sister that had a very fair pretence of going hard by Bristol, to a cousin of hers, that was married to one Mr. Norton, who lived two or three miles towards Bristol, on Somersetshire side, and she might carry me thither as her man; and from Bristol I might find shipping to get out of England.

AIR VOLCANOES.



THE principal volcanoes of the earth pour forth streams of burning lava, or mineral substances in a molten state; but there are other volcanoes which send out merely water, mud, or air. Near Quito, in South America, where fearful earthquakes have taken place, streams of water, and also of mud, called "moya," have been poured from volcanoes, so as to waste and destroy everything in the neighbourhood. It is a remarkable fact that these mud volcanoes sometimes send forth vast quantities of small fish, supposed by Humboldt to have lived and multiplied in subterranean cavities of the earth.

Near the small Indian village of Turbaco, twenty miles from Carthagena, in South America, are fifteen or twenty small volcanoes, rising near each other in a marshy district on the borders of a forest. The simple inhabitants of the village have a tradition that these were formerly fire volcanoes, but that a monk, by sprinkling holy water upon them, put out the fire, and changed them into water volcanoes. It is not water only, however, but air that is sent out at each eruption, although on climbing to the top, the

opening, which is from sixteen to thirty inches in diameter, is seen filled with water, through which the air-bubbles rise.

The surface of the ground is composed of clay, of a dark-grey colour, cracked in various places, and quite bare of vegetation. The volcanoes rise in the form of cones to the height of from nineteen to twenty-five feet; the circumference at the base being, in the largest, from seventy-eight to eighty-five yards. The air rises in these volcanoes with considerable force, and with a loud noise, causing the water to be projected beyond the crater, or to flow over its brim. Some of the openings by which the air escapes are situated in the plain without any rising of the ground. The natives assert that there has been no change in the shape or the number of the cones for twenty years, and that the little cavities are filled with water even in the driest seasons. A stick can easily be pushed into the openings to the depth of six or seven feet, and the dark-coloured clay or mud is exceedingly soft. About five explosions from the several volcanoes take place every two minutes. The cones have, no doubt, been raised by the condensed air, and a dull sound, which is heard fifteen or eighteen seconds before each explosion, proves that the ground beneath is hollow.

THE CONQUEROR.

THE glories of our birth and state
 Are shadows, not substantial things;
 There is no armour against fate;
 Death lays his icy hands on kings:
 Sceptre and crown
 Must tumble down,
 And in the dust be equal made
 With the poor crooked scythe and spade.
 Some men with swords may reap the field,
 And plant fresh laurels where they kill;
 But their strong nerves at last must yield;
 They tame but one another still:
 Early or late
 They stoop to fate,
 And must give up their murmuring breath,
 When they, pale captives, creep to death.
 The garlands wither on your brow;
 Then boast no more your mighty deeds:
 Upon Death's purple altar, now,
 See where the victor victim bleeds:
 All heads must come
 To the cold tomb:
 Only the actions of the just
 Smell sweet and blossom in the dust.

SHIRLEY.

IF the wicked flourish and thou suffer, be not discouraged. They are fatted for destruction; thou art dieted for health.—FULLER.

SMALL injuries slighted become nothing at all.

NOTHING so much prevents our being natural as the desire of appearing so.

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